

**REPORT OF COMMITTEE  
IN THE MATTER OF  
ORIGINAL APPLICATION NO. 32/2021 (WZ)  
(TITLED CHARAN RAVINDRA BHATT Vs VASAI-VIRAR  
CITY MUNICIPAL CORPORATION & ANR)  
IN COMPLIANCE OF ORDER OF HON'BLE NGT,  
PRINCIPAL BENCH, NEW DELHI, DATED 12.07.2021**

**FOR SUBMISSION TO  
HON'BLE NATIONAL GREEN TRIBUNAL,  
WESTERN ZONE BENCH, PUNE  
December 2021**

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**CITY MUNICIPAL CORPORATION & ANR)**  
**IN COMPLIANCE OF ORDER OF HON'BLE NGT, PRINCIPAL**  
**BENCH, NEW DELHI, DATED 12.07.2021**

**COMMITTEE MEMBERS**

Name	Name of Institute/Organization	Signature
Dr. Manik Gursal, IAS	District Magistrate , Palghar	
Shri Pratik Bharme Scientist 'E'	Central Pollution Control Board (CPCB), Regional Directorate, Pune	
Shri. Rajendra Rajput, Regional Officer, Thane	Maharashtra Pollution Control Board (MPCB)	

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**REPORT OF COMMITTEE**  
**IN THE MATTER OF ORIGINAL APPLICATION NO. 32/2021**  
**TITLED CHARAN RAVINDRA BHATT VS VASAI-VIRAR CITY**  
**MUNICIPAL CORPORATION & ANR**

**1.0 BACKGROUND:**

An application has been filed by Shri Charan Ravindra Bhatt against Vasai –Virar Municipal Corporation for its failure in performing its statutory obligation of providing clean environment by scientific disposal of solid and liquid waste.

Hon’ble NGT in this matter passed an order on 12.07.2021 (**Annexure-I**), the relevant paras are re-produced as below:

*“.....7. Accordingly, we constitute a joint Committee comprising CPCB, State PCB and District Magistrate, Palghar to ascertain the compliance status. The State PCB will be the nodal agency for coordination and compliance. The joint Committee will be at liberty to visit the site and interact with the stakeholders and except for site visit once, conduct proceedings online. The Committee will also be at liberty to take assistance from any other expert/institution. The report may give the Environmental Status of Vasai- Virar and mention whether the DEP for the District is in consonance with the directions of this Tribunal particularly with reference to remedial action plans on: (i) Sewage generation, treatment and utilisation (ii) water quality of Vaitarana and Pelhar rivers at strategic locations, water quality of Creek and regulatory zone, preserving water bodies, (iii) Solid waste generation, its processing and bio-mining of legacy waste and preventing fires and nuisance due to foul odour (iv) air quality in the areas of Vasai- Virar and AQI (v) issues relating to Industrial pollution control covering compliance to Water and Air Acts as well as preventing industrial accidents and hazardous waste management and (vi) encroachments/ illegal constructions, monitoring mechanism of the action plan at DM level through District Committee and at State level by CS.*

*8. If the report is adverse to the Municipal Corporation, a copy of the report be furnished to the Corporation for its response, if any, before the next date. In the light of facts found, the statutory authorities will be free to take further action for enforcement of law, including initiation of prosecution and assessment and recovery of compensation on “Polluter Pays’ principle, following due process of law. The joint Committee may also ascertain status of compliance of directions of the State PCB dated 25.04.2019 requiring payment of compensation @ Rs. 10 lakhs per day. ....”*

## 2.0 THE COMMITTEE:

In compliance to the order, joint committee comprising CPCB, MPCB and District Magistrate; Palghar constituted, as below, where MPCB is nodal agency for coordination and compliance.

Name	Name of Department
Dr. Manik Gursal, IAS	District Magistrate, Palghar
Shri Pratik Bharne Scientist 'E'	Central Pollution Control Board (CPCB), Regional Directorate, Pune
Shri. Rajendra Rajput, Regional Officer, Thane	Maharashtra Pollution Control Board (MPCB)

## 3.0 SCOPE OF COMMITTEE:

As per aforesaid order of the Hon'ble NGT, the committee is directed to:

- I. Ascertain the compliance and Environmental status of Vasai-Virar and to mention whether the DEP for the District is in consonance with the directions of the Tribunal particularly with reference to remedial action plans on:
  - (i) Sewage generation, treatment and utilisation
  - (ii) water quality of Vaitarana and Pelhar rivers at strategic locations, water quality of Creek and regulatory zone, preserving water bodies,
  - (iii) Solid waste generation, its processing and bio-mining of legacy waste and preventing fires and nuisance due to foul odour

- (iv) air quality in the areas of Vasai- Virar and AQI
  - (v) issues relating to Industrial pollution control covering compliance to Water and Air Acts as well as preventing industrial accidents and hazardous waste management and
  - (vi) encroachments/ illegal constructions, monitoring mechanism of the action plan at DM level through District Committee and at State level by CS.
- II. Ascertain status of compliance of directions of the State PCB dated 25.04.2019 requiring payment of compensation @ Rs. 10 lakhs per day.

#### **4.0 APPROACH:**

- Meeting of committee convened on 07.10.2021 under Chairmanship of Hon'ble District Magistrate, Palghar along with stake holders (i.e. Vasai Virar City Municipal Corporation)
- Meeting along with officials of Vasai Virar City Municipal Corporation, Site Visit and monitoring of surface water and ambient air quality on 22.10.2021. MPCB officials and staff has carried out water & air sampling, under the guidance of the Committee. The analysis of the samples was carried out Regional Laboratory, MPCB, Thane.
- Information/Data collection, Interpretation and Report preparation

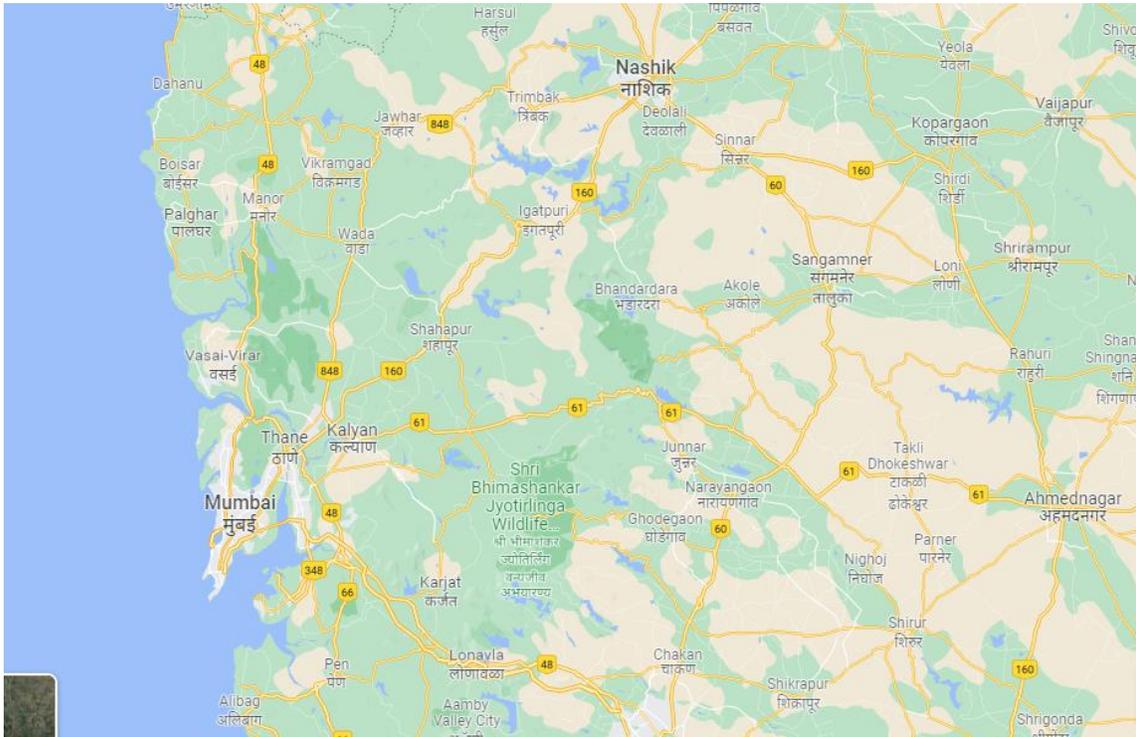
#### **5.0 ABOUT VASAI-VIRAR CITY MUNICIPAL CORPORATION (VCCMC):**

Vasai Virar City Municipal Corporation (VCCMC) located in Vasai

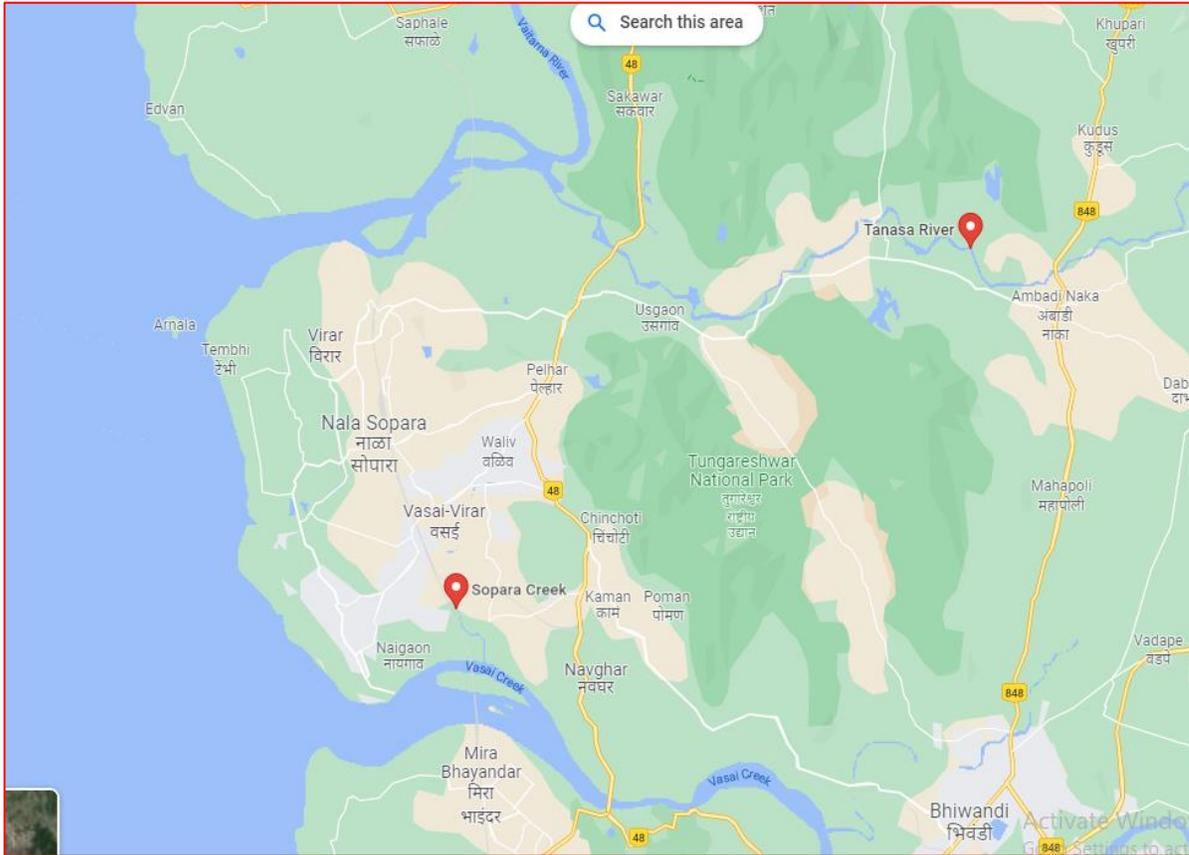
Taluka of Palghar District is formed on 03.07.2009 by merging four municipalities namely Vasai, Virar, Navghar-Manikpur and Nalasopara and 53 villages in the surrounding area. VVCMC is declared as “C” Class Municipal Corporation. The area of VVCMC is 311 sq. km. The Population (as per census 2011) is 12.22 Lakhs whereas the present population is about 20 Lakhs. There are 9 administrative wards.

Vasai-Virar City is the only Metropolitan City (having population more than 10 lakhs in Palghar district which is also having Municipal Corporation. The Palghar district is located North-west die of Maharashtra with Gujarat State in North side. VVCMC is located at North side of Mumbai.

The Vasai Virar City is separated from Greater Mumbai and Mira-Bhayandar City because of presence of Vasai Creek which is on south side of the city where as Vaitarana River on North Side. The City is well connected to Mumbai by Western Railway and through Mumbai-Ahmedabad National Highway. The city is connected to Navi Mumbai, Thane, Bhiwandi, Kalyan and Panvel cities by the Vasai-Diva Railway line. The location and nearby area of vasi-virar, Vaitarna river, vasia creek etc are given in Google images/map, as below-



**Image I- Western part of Maharashtra showing Palgahr and Vasai-Virar**



**Image II- Vasai Virar City Municipal Corporation and rivers & Creek in the Area**

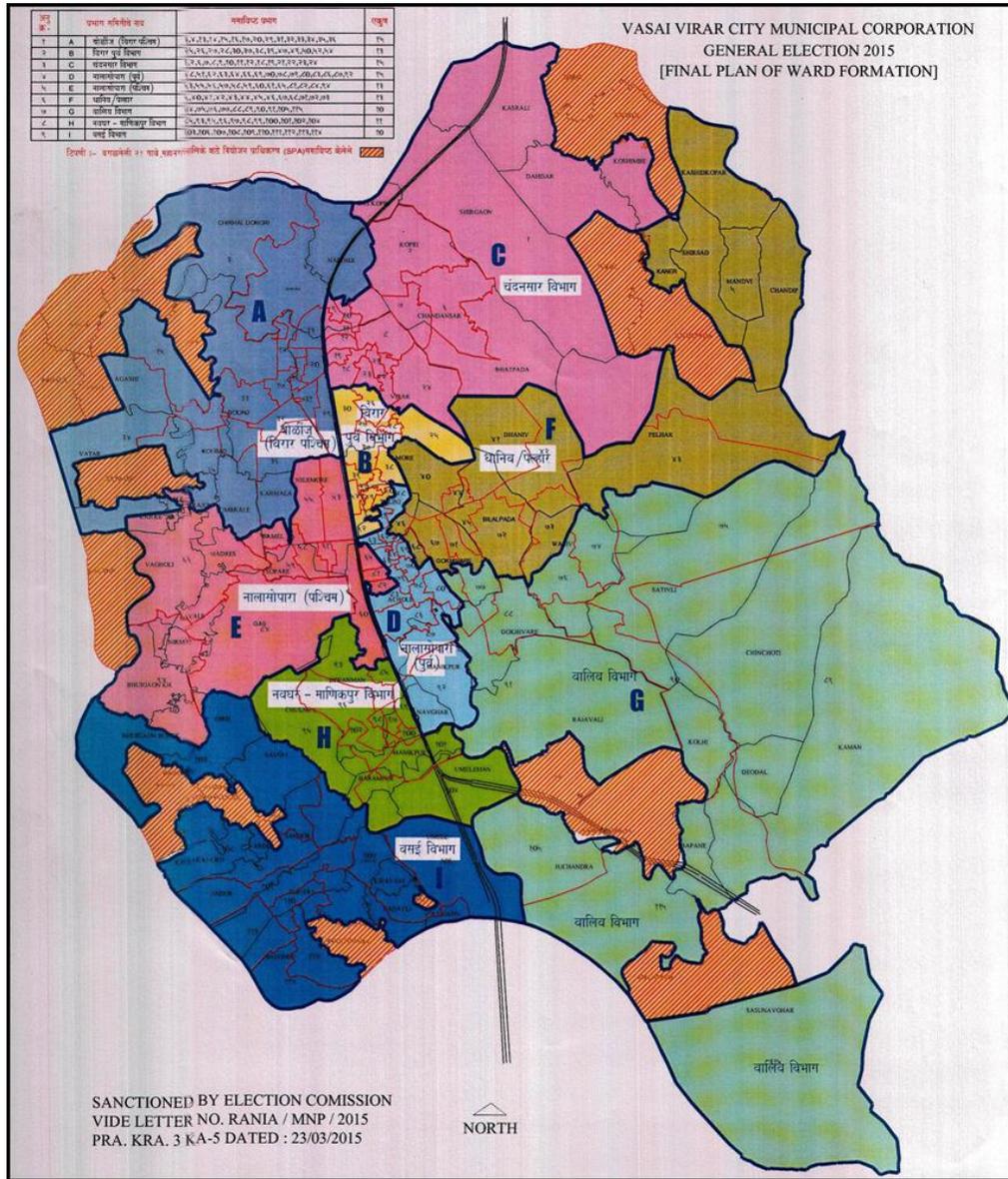


Image-III Map of Vasai Virar City Municipal Corporation

**1.0 Natural Water Bodies in and Around Vasai-Virar City Municipal Corporation:**

Vaitrna river flows in the north direction of corporation and Vasai Creek is on South direction, both meet with the Arabian Sea which is on west side. River Surya which comes from North and Tansa rivers which traverse in east direction meet with Vaitarna River which traverse from North east direction well before Corporation area.

Pelhar river originates from Pelhar Dam/Lake. Pelhar River traverse towards city area. It is seasonal river rather than a perennial river. Total length of Pelhar river from Pelhar dam to Sopara creek is 10 Km and flows from Pelhar dam - Pelhar village - Jabar Pada Gaon - National Highway No.8 (Mumbai Ahmadabad Highway) – Waliv - Golani Naka – Satvali – Navghar - Sopara Creek- Vasai Creek in South direction of City.

The rivers, creek and the Arabian Sea is shown in the **Image-II**, as above.

#### **7.0 MONITORING DURING COMMITTEE VISIT- AMBIENT AIR & SURFACE WATER QUALITY MONITORING**

Monitoring of surface water and ambient air quality carried out on 22.10.2021. The committee took help of MPCB officials and staff for water & ambient air sampling. The analysis of the samples were carried out Regional Laboratory, MPCB, Thane.

The sampling at STP (Inlet & Outlet), natural water bodies (drains/nalas, Pelhar & Vaitarna Rivers and Vasai Creek), leachate & groundwater sample at MSW Site and ambient air quality as detailed in following Tables- 01 & 02 . The analysis results of the monitoring are given at Tables- 03, 04, 05, 06, 07 and 08 in subsequent sections. The photographs taken during the visits/monitoring are provided at **Annexure-II**.

**Table-01: Details of Water, Wastewater Sampling**

Sr. No.	Location Code	Description of Sampling Location(s)
<b>I</b>		<b>STP</b>
01	STP-1	M/s. VVCMC STP Bolinj, Virar- Inlet
02	STP-2	M/s. VVCMC STP Bolinj, Virar- Outlet
<b>II</b>		<b>MSW SITE</b>
01	MSW-1	MSW site, Gokhiware, Vasai- Leachate
02	MSW-2	MSW Site, Gokhiware, Vasai – Bore Well
<b>III</b>		<b>DRAINS/NALAS (MAJOR)</b>
01	NW-1	Narangi Nala, Narandi Gaon, Virar, near Bhavani Mata Temple. The major Nala of Virar City which meets Vaitarna Creek. Most of the sewage generated from Virar City is discharged through this Nala.
02	NW-2	Chikhal Dongri Nala, Chikhal Dongri Gaon, Virar. This is also one of the major Nala in which large quantity of sewage is discharged which finally meets Vaitarna Creek.
03	NW-3	Shirgaon Nala, Shirgaon Gaon, Virar near bridge. In this Nala, small quantity of sewage is discharged. This Nala also meets Vaitarna Creek.
04	NW-4	Bhuigaon Nala, Bhigaon, Nalasopara (W). The sewage generated from Vasai City is discharged untreated through this Nala.
05	NW-5	Malonde Nala, Vill-Papdi, Vasai near bridge. The sewage generated from Vasai (West) City is discharged untreated through this Nala.
06	NW-6	Juchandra Nala, Vill-Juchanrda, Naigaon (E). The sewage generated from Vasai – Naigaon City is discharged untreated through this Nala.
<b>IV</b>		<b>RIVER/CREEKS</b>
01	RW-1	Vaitarna River, Vaitarna Village, Virar
02	RW-2	Vaitarna River, after confluence of Narangi Nalla
03	RW-3	Vasai Creek, Vasai Fort, Vasai (W)
04	RW-4	Vasai Creek after confluence of Malonde Nalla, Vasai Fort, Vasai (W)
05	RW-5	Pelhar River, Vill-Pelhar, Nalasopara (E) near Jabbarpada, Nalasopara and at this location it is found discharge of waste water generation from Tabelas.
06	RW-6	Pelhar River, near Range office, Gokhiware before meeting with Vasai creek.

**Table-02: Details of Ambient Air Quality Monitoring Locations**

Sr No.		Description of Sampling Location(s)	
01	AAQM-1	Near Railway Station & Market & Vasai-Virar City Municipal Corporation Building- Commercial	Manual
02	AAQM-2	Near Mata & Bal Hospital, Bolinj, Virar	Manual
03	AAQM-3	Near Nalasopara 'E' Ward Office	Manual
04	AAQM-4	Near D.M. Petit Hospital, Vasai (West)	Manual
05	CAAQMS	Near Fire Brigade Office, Ever shine City, Vasai- West.	CAAQMS

## **8.0 ENVIRONMENTAL STATUS AT VASAI-VIRAR CITY MUNICIPAL CORPORATION (VCCMC)**

The Environmental Status is prepared based on the meeting with VCCMC Officials, Site Visits, Monitoring, Information/data provided by VCCMC and MPCB. The information provided by VCCMC is provided at **Annexure-III**.

### **8.1 WATER SUPPLY & SEWAGE GENERATION, TREATMENT AND UTILIZATION**

#### **8.1.1 Water Supply:**

The corporation gets water supply from Pelhar Dam/Lake, Surya River (Scheme 1 & 3) and Usgaon Dam ( Tansa River). The total water supply is 231 MLD from these sources. However, due to water losses, 196.35 MLD water is supplied in the city.

### **8.1.2 Sewage Generation & Treatment:**

Out of about 196 MLD water supply, **about 156 MLD sewerage is generated in the city.**

At present, 30 MLD STP is established by Corporation at Bolinj, Virar which is in operation where 22 MLD sewage is being received. As informed by the Corporation, sewage generated from society/colonies/buildings developed by Builders/Developers are treated/ to be treated in their own individuals STPs and utilise treated sewage for gardening/flushing in toilets. Accordingly, during approving the plan of builders/developers, about 101 STPs of 59.50 MLD capacity are proposed out of which work of 21 STPs are completed and work of 46 STP are in progress. At present, private STPs with total 28 MLD capacity are in operation.

Under the Swatch Bharat Mission, VVCMC constructed 173 public latrines, 56 Community latrines and 10607 indivisible latrines with Septic Tanks in corporation area. Approximately, 8 MLD sewage is being partially treated from these septic tanks. Also, there are 88665 Societies which are provided with septic tanks for their sewage. The partially treated sewage, through Septic Tanks, is discharged in to drains/nalas passing through City.

**Thus, at present 50 MLD sewage (32 %) is being treated i.e. STP provided by Corporation (22 MLD treatment) and STPs for Building/society developed by Builder/Developers (28 MLD) whereas 106 MLD untreated/partially treated sewage (68 %) is discharged into different drains/nalas across the city which meets either with Arabian sea through Vasai creek, Vaitarna River/Creek or directly to the Arabian Sea,**

### 8.1.3 STP Bolinj, Virar- Operation & Treatment

The STP is located at Village Bolinj, Virar with installed capacity -30 MLD which is recently made operational and 22 MLD of sewage is being received at this STP. The sewage is received from Zone-2 which coming from Virar (West) area.

The STP comprises of screen and grit chamber, collection and settling tank, MBBR tank, primary and secondary clarifier, chlorine contact tank, sludge thickener. The unit operations and processes were found operational.

The sampling carried out at Inlet & Outlet of STP on 22.10.2021. The analysis results are given in following Table-03:

**Table-03: The analysis results of STP (Inlet & Outlet)**

Sr. No.	Parameter	Inlet of STP	Outlet of STP	Discharge Standards
1	pH	6.9	7.1	6.5 to 9
2	BOD (mg/l)	560	110	10
3	COD (mg/l)	1272	244	50
4	TSS (mg/l)	76	22	20
5	Nitrate Nitrogen (mg/l)	2.28	2.17	5
6	Fecal Coliform (MPN/100 ml)	280000	16000	<100 MPN/100 ml

(The concentration is expressed in mg/l except pH and Fecal Coliform)

It is revealed from the result that the concentration of BOD, COD, TSS & Fecal Coliform exceeds the prescribed standard. The partially treated sewage disposed into Vaitarna creek through Chikhal-Dongri Nala. The sewage generated from other places i.e. Vasai City meets Vasai Fort Creek and that from Virar City and Nalasopara City meets Vaitarna Creek.

#### **8.1.4 Proposed Action Plans For Sewage Treatment:**

VVCMC planned to provide Sewerage system to whole municipal area and hence through consultant prepared a DPR in which city is divided in various 20 Zones and the DPR is submitted to Govt. of Maharashtra for approval in Satellite City programme.

The State Government sent a proposal to the Central Government under the flagship scheme of Central Govt which is Urban Infrastructure Development Scheme for Satellite Towns (UIDSST) which was launched for satellite towns around 7 Megacities including Vasai-Virar City, the only City in Maharashtra. The scheme focuses on the development of 3 sectors of essential infrastructure facilities like water supply, sewerage/drainage, solid waste management coupled with Reforms to enhance the delivery of services with respect to the benchmarks set out. In which out of 20 Zones, DPR for 7 zones costing Rs. 557.68 Crores is submitted to Central Govt. under the recommendation of State Govt.

Out of the total amount of Rs. 557.68 Crores (DPR of Underground Sewerage System), Central Public Health and Environmental Engineering Organisation (CPHEEO), Technical Wing of the Ministry of Urban Development, Government of India, has appraised an amount of Rs. 100.6517 Crores as first Phase for the work of Virar region (STP-1 and STP-2) under the scheme. However, the Ministry of Urban Development of Govt of India has sanctioned an amount of Rs.66.22 Crores for STP at Virar (Bolinj Virar- 30 MLD capacity i.e. STP-2). The work of this STP (30 MLD) at Bolinj, Virar (Zone no. 2) is completed and STP made recently operational. In the sanctioned scheme of Rs. 66.22 Crores work

of 66 Km Collection system and 30 MLD STP was proposed but for betterment VVCMC; through own funds constructed additional 15 Km collection system and constructed Inlet work for 52 MLD considering future demand.

The Master Plan of Rs. 1231.96 Core for remaining 6 STP zones is prepared. VVCMC submitted a letter dated 11/02/2014 with Detailed Project Report (DPR) to the Government of Maharashtra with recommendation. Further, Mumbai Metropolitan Region Development Authority (MMRDA) submitted Detailed Project Report (DPR) vide letter dated 17.04.2021 to the Central Government's for approval of UIDSST scheme, based on the direction of the Govt of Maharashtra. However, the project has not been approved yet.

Under State Annual Action Plan (SAAP) of year 2017-18, Rs. 170 crores is sanctioned. Accordingly, DPR of Nalasopara east area of zone 3 is prepared and submitted for approval to Maharashtra Jeevan Pradhikaran (MJP), Water Supply & Sanitation Department, Govt of Maharashtra, the nodal agency for Atal Mission for Rejuvenation and Urban Transformation (AMRUT) which is launched by Government of India with the aim of providing basic civic amenities like water supply, sewerage, urban transport, parks as to improve the quality of life for all especially the poor and the disadvantaged. But due to diversion of funds to MMRDA project, the work is not sanctioned by state Govt.

It is informed by VVCMC that as per the Norms of CPHHEO the underground drainage system is to be provided to the areas having 135

LPCD water supplies. At present, in VVCMC area water is supplied at the rate of 80-90 LPCD. In rural areas water supply is made through open well, bore well and by tankers thus in such areas drainage scheme will not be feasible as per CPHHEO norms at this stage. Hence in all such areas, public and private latrines are provided and the city is declared as Open Defecation Free (ODF) in 2018. Under the Swachh Bharat Programme with the help of Government support about 173 public latrines, 56 Community latrines and 10607 Indivisible latrines with Septic Tanks are constructed in corporation area.

#### **8.1.5 Issue faced by VVCMC for Funds to provide Sewerage network & STPs:**

The project proposals (DPR) submitted through MMRDA for the fund under Satellite Cities scheme of Central Govt and through Maharashtra Jeevan Pradhikaran (MLP) for funds under AMRUT scheme of Central Govt, are not yet approved since long.

It is mentioned that VVCMC is form in July 2009 and after closing of Octroi Tax/ Local Body Tax (LBT) only house tax remains main source of Income. Form this income major amount is spent on basic amenities like health, Solid waste management and water supply department. Beside that other expenditure on development of Infrastructure are made. In such situation it becomes very difficult to execute such big projects from own funds. However, VVCMC has executed projects of 100 MLD Water Supply, Virar Underground drainage scheme, during the short period of corporation.

It is mentioned that Financial closer is one of the most important factors in execution of such big project and without Government support it will not be possible for ULB to execute the project from their own funds. And hence VVCMC is not able to implement the project, hence, VVCMC has requested that Government of Maharashtra should help VVCMC in availing approvals and financial support for execution of sewage projects.

## **8.2 WATER QUALITY OF VAITARANA AND PELHAR RIVERS AT STRATEGIC LOCATIONS, WATER QUALITY OF CREEK AND REGULATORY ZONE, PRESERVING WATER BODIES**

8.2.1 Sewage generated from the cities or villages along the river has been discharged into the river causing river pollution. Major part of the city of Vasai Virar is located on the bank of Vasai creek. Most of the sewage generated from Virar & Nalasopara City is discharged in Vaitarna River whereas sewage of generated from Vasai & part of Nalasopara City is discharged in Vasai creek. VVMC has not provided any sewage collection system and STPs in the area of the banks of the Pelhar river.

8.2.2 The major nalas in the Corporation area such as Narangi Nala, Chikhal Dongro Nala in Virar meets with Vaitarna River. Most of the sewage generated from Virar City is discharged through these Nalas. Shirgaon Nala in Virar, which carry small quantity of sewage, is also meets Vaitarna River.

8.2.3 The major Nalas in Vasai City area such as Bhuigaon Nala (carry

sewage from City Area), Malonde Nala (carry sewage from Vasai west city) and Juchandra Nala (carry sewage from the Vasai-Naigaon City) and discharges untreated sewage into Vasai Creek. The sewage generated from Vasai City is discharged untreated through these Nalas.

8.2.4 Sampling carried out at strategic locations on 22.10.2021 and results are provided in the Tables-04 & 05 as below:

**Table- 04: Analysis results of surface water (Drain/Nala) sampling**

Parameter(s)	Sampling Location(s)						
	Narangi Nala	Chikhal Dongri Nala, Virar	Shirgaon Nala, Virar	Bhuigaon Nala, Nallasopara	Malonde Nala, Vasai	Juchandra Nala, Vasai	
	NW-1	NW-2	NW-3	NW-4	NW-5	NW-6	
pH	7.3	7.5	7.5	7.6	7.5	7.5	
BOD	60	115	95	17	30	47.5	
COD	128	204	160	36	72	88	
S.S.	65	205	24	11	14	54	
Oil & Grease	BDL	BDL	BDL	BDL	BDL	BDL	
TDS	1011	5879	461	1009	550	958	
Chloride	409.87	3248.99	1149.64	379.88	83.97	409.87	
Sulphate	87.04	332.35	37.53	88.74	52.58	34.84	
Detergent	0.02	0.02	0.02	BDL	0.02	0.02	

**Table-05: Analysis results of surface water (river/creek) sampling**

Parameter	Sampling Location(s)					
	Vaitarna River, Vaitarna Village	Vaitarna River after confluence of Narangi Nalla	Vasai Creek , Vasai Fort, Vasai	Vasai Creek after confluence of Malonde Nalla, Vasai Fort, Vasai (W)	Pelhar River, Vill-Pelhar, Nalasopara (E) near Jabbarpada,	Pelhar River, near Range Office, Gokhiware
	RW-1	RW-2	RW-3	RW-4	RW-5	RW-6
pH	7.3	7.4	7.6	7.5	7.1	7.4
Dissolved Oxygen (DO)	5.2	5.3	5.1	5.3	Nil	1.7
BOD	11.5	10	11.5	10.5	260	35
COD	104	80	100	100	500	100
S.S.	22	22	38	94	68	48
Oil & Grease	BDL	BDL	BDL	BDL	BDL	BDL
TDS	22850	23530	22470	1948	880	990
Chloride	10246.82	10746.67	10096.87	10046.88	86.97	158.95
Sulphate	1362	1461	1149.5	1295.	89.42	111.48
Fecal Coliform	130	390	6.1	840	350000	92000
Total Coliform	220	1400	46	1200	350000	92000

8.2.5 It is revealed from the analysis results that BOD & COD in all the drains/Nalas are in the range from 17 mg/l to 115 mg/l and 36 mg/l to 204 mg/l, respectively. The concentration of BOD & COD found higher in Chikhali Dongari Nala, Vasai whereas it is less in Bhuigaon Nala, Vasai. It shows sewage is flowing in drains/Nalas which are ultimately meeting with rivers/creeks causing pollution in receiving water bodies.

8.2.6 BOD in Vaitarana River and Vasai Creek, at both locations each, are almost same i.e. about 10 mg/l whereas COD is about 100 mg/l. DO is more than 5 mg/l. There is also effect of sea backwater in to these creeks. BOD and COD shows contamination due to sewage in these Creeks. Vasai creek also receive treated/untreated sewage/wastewater through Ulhas River from Kalyan area.

8.2.7 The concentration of BOD and COD in the samples of Pelhar River at up-stream (before entering into Vasai City) i.e. near Jabbarpada, Nalasopara is 260 mg/l and 500 mg/l, respectively, which is due to discharge of wastewater generation from Buffalo Farming/*Tabelas* due to which water quality is deteriorated. The concentration of BOD and COD in the samples of Pelhar River at downstream of river, collected at Range office, Gokhiware, before confluence of Vasai creek is 35 mg/l & 100 mg/l, respectively. The Pelhar river is not perennial river and during the sampling no overflow/ discharge observed from pelhar dam to river. Therefore, only untreated sewage flows through this river when there is no flow from dam i.e. mostly in non-monsoon season.

### **8.3 SOLID WASTE GENERATION, ITS PROCESSING AND BIO-MINING OF LEGACY WASTE AND PREVENTING FIRES AND NUISANCE DUE TO FOUL ODOUR**

**As per Information provided by VVCMC:**

8.3.1 As per the information provided by VVCMC, the generation of solid waste is about 620 TPD whereas collection is 600 TPD and 20 TPD is processed by individual residential project (Builder /

Developers) having Built Up Area (BUA) more than 20,000 sq.m those have obtained Environmental Clearance.

### 8.3.2 Processing of solid waste in the past:

- a. M/s. Hanjer Biotech Energies Ltd. had signed an agreement with VVCMC for 300 TPD waste processing plant at Gokhivare site, remains operational from 2010 to Nov 2013.
- b. After Nov 2013 the plant was shut down due to occurrence of fire & Company's internal issues.
- c. Under the guidance of Bhabha Atomic Research Centre (BARC), VVCMC has undertaken Pilot Project for removal of Methane at dumpsite.
- d. The plant was installed and remained operational till May 2017.
- e. Due to some circumstances like frequently shifting of plant, non-operation of plant in Monsoon & Winter Season and financial constraint the project stopped.

### 8.3.3 Present Status of MSW Management :

- a. Two Segregating Trommel Machines, each of capacity 300TPD for processing of daily fresh waste are in operation.
- b. VVCMC has adopted windrow composting method for processing 100TPD MSW.
- c. Around 20 BWGs (Bulk waste Generators) are practicing on-site wet waste composting.
- d. Total 7 Biogas Plants each of 10 kg/day capacity installed in 7 prominent Municipal Gardens to process garden and floral waste.

#### 8.3.4 Proposed Action Plan for MSW:

- a. Tender called for processing 600 TPD daily collected fresh waste on 28.08.2021
- b. Tender to install plant for processing green waste of 10 TPD capacity under process.
- c. Tender called for erection of biogas plant for 30 TPD capacity.

#### 8.3.5 Processing of Legacy Waste:

SLF developed under Urban Infrastructure Development Scheme for Satellite Town (UIDSST) to dispose inert waste segregated during processing of legacy waste. Tender for Bio-mining floated by VVCMC in the consecutive year 2017, 2018, 2019 and 2020. As no repose was received from bidders for bio-mining project, VVCMC purchased 2 (Nos.) of Segregating Trommel machines each of capacity 300 TPD for processing legacy waste as well as daily fresh waste are in operational.

In addition, VVMC has proposed 6 (Nos) of segregating trammel machines each of 300 TPD.

#### 8.3.6 Measures to Control Fire & Odour:

Culture is spread over the daily fresh MSW for rapid decomposition and odour removal at dumping site.

#### 8.3.7 Plastic Waste Management

- a. Plastic Waste is segregated & collected at source and at dumping site by VVMC sanitary workers and rag pickers.

- b. 47 number of waste pickers area authorized and their Small Housing Groups formed under DAY National Urban Livelihood Mission.
- c. Plastic Ban Campaign is done regular basis to discourage the use and sale of plastic less than 50 micron under the Plastic Waste Management Rules, 2016 and amendment thereto.

#### 8.3.8 Observation of the Committee:

- It is observed that VVCMC is dumping Solid Waste at the Site at Survey No. 30 A, 31, 32, Gokhivare, Vasai. The area of the facility is 2.6 Hectars (260000 Sq M). Presently, approx. 600 MT/Day MSW is being dumped in the Site. VVCMC has only two Trommel Machines having capacity 300TPD each for the processing of fresh waste. Though, it is claimed that VVCMC has adopted windrow composting method for processing of MSW 100 TPD, however, during visit the same was not in operation.
- A huge heap of MSW is observed at the site dumped in improper way, and also foul smell nuisance is noticed in the premises and nearby area.
- There is approx. 1,21,000 Tons of legacy waste at dumpsite. VVCMC has established Two Trommel Machines having capacity 300 TPD each for the processing of legacy waste. The trammel machines were found operational for segregation of waste i.e. recyclable (plastic paper rubber glass etc), inert and wet waste for composting. It is informed that inert waste is

disposed in Sanitary Land Fill Facility (SLF), Plastic waste is given to rag pickers, and wet waste is used for windrows composting. However, composting of wet waste could not be observed at the site.

- There is no leachate collection and treatment system and therefore, leachate find its way into nearby Nala without any treatment which eventually meets Vasai Creek. The Sample of Leachate was collected on 22.10.2021. The sample of the ground water from Bore well present in the Site. The Analysis results are given in Table-06.

**Table- 06: Analysis results of Sample of Leachate and Bore Well**

Parameter(s)	Leachate	Borewell at MSW Site-Gokhiware, Vasai
pH	7.9	7.2
TDS	6379	1120
Nitrate Nitrogen	7	1.86
Chloride	2439.24	196.94
Cyanide	BDL	BDL
Hardness (total)	1000	444
Sulphate	170.28	113.6
Phenol	0.02	----

Note: All the parameters are expressed in mg/l.

## 8.4 AIR QUALITY IN THE AREAS OF VASAI- VIRAR AND AIR QUALITY INDEX (AQI)

8.4.1 MPCB has already installed Continuous Ambient Air Quality Monitoring Station (CAAQMS) at Fire Brigade office, Evergreen City, Vasai (West).

8.4.2 In addition, Manual Ambient Air Quality Monitoring (AAQM) carried out at four locations in Vasai-Virar City on 22.10.2021-23.11.2021 (for 24 hrs) at the time of Committee visit. The location details are provided at Table-02. The results of AAQM and CAAQMS are as per Table-07.

**Table-07 Analysis Results of Ambient Air Quality Monitoring**

(Duration- 22.10.2021-23.10.2021-24 Hrs)

Parameter(s)	Monitoring Location(s)					NAAQ Standards <sup>#</sup>
	VVCMC Main Office Vasai (Manual)	Mata & Bal Hospital, Bolinj, Vasai (Manual)	VVCMC 'E' Ward Nalasopara (Manual)	D. M. Petit Hospital, Vasai (West) (Manual)	Near Fire Brigade Office, Ever shine City, Vasai- West. (CAAQMS) Stn	
PM 10 (RSPM)	190	271.33	220.33	70.66*	170.79	100
PM 2.5	42	79	62	87	71.64	60
SO <sub>2</sub>	BDL	BDL	BDL	BDL	20.32	80
NO <sub>2</sub>	BDL	BDL	BDL	BDL	22.35	80

- The concentration is expressed in  $\mu\text{g}/\text{m}^3$
- # NAAQS- NATIONAL AMBIENT AIR QUALITY STANDARDS Notification by CPCB dated 18th November, 2009 for Industrial, Residential, Rural and Other Area for 24 hrs
- \* seems to be error in sampling and analysis.

8.4.3 It is observed from the manual AAQM results that the concentration of PM10 is more than NAAQS i.e.  $100 \mu\text{g}/\text{m}^3$  at four locations VVCMC Main Office, Vasai; Mata & Bal Hospital, Bolinj, Vasai and VVCMC; 'E' Ward Nalasopara and CAAQMS at Fire Brigade Office, Ever shine City, Vasai- West. The concentration of PM2.5 is more than NAAQS i.e.  $60 \mu\text{g}/\text{m}^3$  at four locations Mata & Bal Hospital, Bolinj, Vasai; VVCMC; 'E' Ward Nalasopara, D. M. Petit Hospital, Vasai (West) and CAAQMS Fire Brigade Office, Ever shine City, Vasai- West. The concentration of PM2.5 is less than NAAQS i.e.  $60 \mu\text{g}/\text{m}^3$  at location - VVCMC Main Office, Vasai.

8.4.4 The Air Quality Index (AQI) as per CAAQMS at Fire Brigade Office, Ever shine City, Vasai (West) and Air Quality Index & Category is as Given in **Table-08** and **Table-09**, respectively, as below:

**Table -08 Air Quality Index (AQI) for year-2021**

Month(s)	Vasai
January	158
February	130
Mar	105
April	
May	
June	
July	
August	
September	
October	
November	144

**Table-09 Air Quality Index & Category**

<b>Air Quality Index (AQI)</b>	<b>Category</b>
0-50	Good
51-100	Satisfactory
101-200	Moderate
201-300	Poor
301-400	Very Poor
401-500	Severe

8.4.5 It is observed that AQI varies from 55 to 81 in the Month- April 2021 to October 2021 and its air quality category is Satisfactory whereas AQI varies from 105 to 158 in the month of January, February, March & November and air quality category is Moderate.

#### **8.4.6 National Clean Air Programme (NCAP):**

As per the recommendation of 15th Central Finance Commission, Vasai-Virar City Municipal Corporation has been included under Million Plus Cities in the state, vide FFC 2020 / Pr.No.56 / Nov-4 dated 28th October, 2020. For improvement in City's Air Quality, Rs.32 Crore has been disbursed under National Clean Air Program to Urban Development Department and the funds have been received by Vasai-Virar City Municipal Corporation. The corporation has appointed to M/s. Tandon Urban Solutions Pvt. Ltd. (TUSPL) as technical advisor for proper planning and implementation of program. City Action Plan is approved and under implementation. The VVCMC has submitted Micro Action Plan to MPCB and in turn MPCB submitted to CPCB for approval from Central Pollution Control Board (CPCB). Various Activities in the Plan are:

1. Procurement of Electric Vehicles.
2. Pay & Park facility.
3. Miyavaki Garden
4. Vacuum mechanical sweeping vehicles
5. Construction of Water fountains.
6. Installation of Wind Augmentation Purifying Unit (WAYU)
7. Installation of Air Monitoring System.

**8.5 Issues relating to Industrial pollution control covering compliance to Water and Air Acts as well as preventing industrial accidents and hazardous waste management**

8.5.1 Vasai Virar City Municipal Corporation has mainly non-polluting industries like Engineering, Electrical and Electronics, Automobile Service Center etc. Industry statistic in Vasai-Virar City Municipal Corporation is as Table-10 below:

**Table-10 Industry statistic in Vasai-Virar City Municipal Corporation**

Category	LSI	MSI	SSI	Total
Red	05	05	215	225
Orange	41	03	125	169
Green	01	02	418	421
Total	47	10	758	815

8.5.2 In the jurisdiction of Vasai Virar City Municipal Corporation, there are 5 numbers of large scale units namely - Amul Dairy, Classic Stripes, Raychem RPG, Ebco Pvt. Ltd., Mega Rubber. These industries have provided full-fledged ETP and after

treatment, effluent is utilized on land for gardening purposes. As per consent condition, no industry is permitted to discharge effluent outside their premises. These industries have provided adequate APC system.

8.5.3 MPCB has carried out visits to industries from time to time and has issued 9 no. of Closure directions and 11 no. of Interim Directions in the past 6 months.

8.5.4 No industrial accidents have occurred since one year, also no unscientific disposal of hazardous waste was noted during the last year in the vicinity of VVCMC. The units generating hazardous waste are having membership of CHWTSDF for scientific disposal of hazardous waste.

**8.6 Encroachments/ illegal constructions, monitoring mechanism of the action plan at DM level through District Committee and at State level by CS.**

The information in this regard as provided by VVCMC i.e. letter along with status of encroachment on the land reserved for STPs from Addl Commissioner to Commissioner, VVCMC, is attached as **Annexure-IV**. As per letter, out of 10 locations/reserved lands, 6 reserved land are now vacant, three lands are with encroachment and one reserved land is partially encroached.

**8.7 Status of compliance of directions of the State PCB dated 25.04.2019 requiring payment of compensation @ Rs. 10 lakhs per day:**

VVCMC has not submitted the compensation @ Rs. 10 lakh/day till date.

### **8.8 District Environment Plan (DEP)**

DEP is prepared for Palghar District and copy of the DEP is attached as **Annexure-V**. Hon'ble District Magistrate is taking review meeting for the implementation of District Environment Plan.

### **9.0 CONCLUSION:**

Based on the information submitted by VVCMC, visit to the Sites/Corporation area and monitoring carried out, following conclusions and recommendations are drawn:

9.1 At present, out of 156 MLD sewage generation, 50 MLD sewage (32 %) is being treated i.e. STP provided by Corporation (capacity-30 MLD & actual flow-22 MLD) and STPs for Building/society developed by Builder/Developers (28 MLD) whereas 106 MLD untreated/partially treated sewage (68 %) is discharged into different drains/nalas across the city which meets either with Arabian sea through Vasai creek, Vaitarna River or directly to the Arabian Sea. The treatment at STP is also not proper as STP Outlet is not meeting with prescribed standards. Most of the sewage generated from Virar & Nalasopara City is discharged in Vaitarna Creek whereas sewage of generated from Vasai & part of Nalasopara City is discharged in Vasai creek. VVMC has not provided any sewage collection system and STPs in the area of the banks of the Pelhar river. Thus, most of the untreated/partially treated Sewage is discharged into water bodies causing contamination.

- 9.2 BOD in Vaitarana River and Vasai Creek, at both locations each, are almost same i.e. about 10 mg/l whereas COD is about 100 mg/l. DO is more than 5 mg/l. There is also effect of sea backwater in to these creeks. BOD and COD shows contamination due to sewage in these Creeks. Vasai creek also receive treated/untreated sewage/wastewater through Ulhas River from Kalyan area.
- 9.3 The Pelhar river is not perennial river. During the sampling, no overflow observed from Pelhar Dam/Lake to river and there was discharge of wastewater generation from Buffalo Farming/Tabelas & sewage from Corporation area, the water quality of Pelhar river is highly deteriorated. Generally, untreated sewage flows through this river when there is no flow from dam i.e. mostly in non-monsoon season.
- 9.4 VVCMC submitted project proposals (DPR) through MMRDA for the fund (Rs. 1231.96 Core) under Satellite Cities scheme of Central Govt and through Maharashtra Jeevan Pradhikaran (MLP) for funds (Rs. 170 Crore) under AMRUT scheme of Central Govt for STPs, however, these funds are not yet approved since long. It is mentioned that Financial closer is one of the most important factors in execution of such big project and without Government support it will not be possible for ULB to execute the project from their own funds, and VVCMC is not able to implement the project, hence, VVCMC has requested that Government of Maharashtra should help VVCMC in availing approvals and financial support for execution of sewage projects. Further, no work is started for proposed STPs.
- 9.5 Presently approx. 600 MT/Day MSW is being dumped in an

- 9.6 improper manner at the Site at Gokhivare, Vasai. There is approx. 1,21,000 Tons of legacy waste at dumpsite. VVCMC has installed two Trommel Machines (capacity 300TPD each) for the processing of fresh waste and two Trommel Machines having capacity 300 TPD each for the processing of legacy waste. Though, it is claimed that VVCMC has adopted windrow composting method for processing of MSW 100 TPD, however, during visit the same was not in operation.
- 9.7 The trammel machines were found operational for segregation of waste i.e. recyclable (plastic paper rubber glass etc), inert and wet waste for composting. It is informed that inert waste is disposed in Sanitary Land Fill Facility (SLF), Plastic waste is given to rag pickers and wet waste is used for windrows composting. However, composting could not be observed at the site and management of recyclable waste needs further improvement.
- 9.8 There is no leachate collection and treatment system and therefore, leachate find its way into nearby Nala without any treatment which eventually meets Vasai Creek. A huge heap of MSW is observed at the site. Also foul smell nuisance is noticed in the premises and nearby area.
- 9.9 It is observed from the manual AAQM & CAAQMS results that the concentration of PM10 and PM2.5 is more than NAAQS at four locations whereas the concentration is less than NAAQS at one location. It is observed that AQI varies from 55 to 81 in the Month-April 2021 to October 2021 and its air quality category is Satisfactory whereas AQI varies from 105 to 158 in the month of January, February, March & November and air quality category

Moderate.

- 9.10 Vasai-Virar City Municipal Corporation has been included under Million Plus Cities in the state, and for improvement in City's Air Quality, Rs.32 crore has been disbursed under National Clean Air Program (NCAP) and the funds have been received by Vasai-Virar City Municipal Corporation and work of improvement of Air quality is under progress.
- 9.11 In the jurisdiction of Vasai Virar City Municipal Corporation, there are no grossly polluting industries. However, Vasai Virar City Municipal Corporation has mainly non-polluting industries like Engineering, Electrical and Electronics, Automobile Service Center etc. MPCB has not permitted any discharge of effluent or air emissions without any treatment in the environment. Also, the units generating hazardous waste are having membership of CHWTSDF for scientific disposal of hazardous waste.
- 9.12 Hon'ble Chairman of the Committee has directed VVCMC to submit report on action taken against the encroachment/ illegal construction as per monitoring mechanism of the action plan at District Magistrate level through District Committee and at State level by Chief Secretary.
- 9.13 VVCMC has not submitted the compensation @ Rs. 10 lakh/day till date towards the compliance of directions of MPCB dated 25.04.2019.

#### **10.0 RECOMMENDATIONS:**

- VVCMC should comply with the direction of MPCB dated 25.04.2019 and deposit the compensation.

- VVCMC should expedite efforts for getting funds/generating funds for set up of Sewerage network and STPs and stop discharging untreated/partially treated sewage into water bodies.
- VVCMC should properly operate the existing STP at Bolinj, Virar to meet with standards prescribed by MPCB.
- VVCMC should expedite in getting set up proper processing and disposal facility for solid waste generated and legacy waste dumped at the Site.
- Buffalo farming in the area near Pelhar River should be asked to provide proper wastewater/sewage treatment facility.
- VVCMC should expedite in execution of National Clean Air Plan for improving air quality in the Corporation area.
- MPCB may recover compensation as per direction dated 25.04.2021 requiring payment of compensation @ Rs. 10 lakhs per day.
- MPCB may take action for enforcement of law, including initiation of prosecution and assessment and recovery of compensation on “Polluter Pays’ principle, following due process of law as per the non-compliances observed in this report, in view of the order dated 12.07.2021 passed by Hon’ble NGT in this matter.

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Item No. 01

(Pune Bench)

**BEFORE THE NATIONAL GREEN TRIBUNAL  
PRINCIPAL BENCH, NEW DELHI**

(By Video Conferencing)

Original Application No. 32/2021 (WZ)

Charan Ravindra Bhatt

Applicant

Versus

Vasai-Virar City Municipal Corporation &amp; Anr.

Respondent(s)

Date of hearing: 12.07.2021

**CORAM: HON'BLE MR. JUSTICE ADARSH KUMAR GOEL, CHAIRPERSON  
HON'BLE MR. JUSTICE SUDHIR AGARWAL, JUDICIAL MEMBER  
HON'BLE MR. JUSTICE M. SATHYANARAYANAN, JUDICIAL MEMBER  
HON'BLE DR. NAGIN NANDA, EXPERT MEMBER**

Applicant: Mr. Karan Raj, Advocate

**ORDER**

1. Grievance in this application is against failure of Vasai - Virar Municipal Corporation in performing its statutory obligation of providing clean environment by scientific disposal of solid and liquid waste.
2. Averments in the application are that the city and tehsil of Vasai - Virar is surrounded by the beauty of nature, which includes the river "Vaitarana" which flows towards the north side of the city. The river is surrounded by a creek, known as "Vasai creek" towards the south, the Arabian sea towards the west and the forests and mountains towards the east. The city is accordingly blessed with natural resources and abundant environment which helps to maintain the ecological balance in the ecosystem in the city and nearby areas. The region of Vasai - Virar has been subjected to severe pollution owing to setting up of several industries in the area. Only one STP with a capacity of 30

million liters per day (mld) has been installed. Further, only fifteen mld sewage is being treated in the STP. One hundred and eighty-four mld sewage water is being generated in the Vasai - Virar City Municipal Corporation and the same is released in the water bodies and ocean situated near the Municipal Corporation, thereby, creating pollution in the water bodies. This is drastically affecting the environment and creating oceanic and aquatic pollution. Furthermore, the untreated water is released in the nearby water body which is affecting the environment. The Applicant submits that there are more than ninety water bodies in the region of the Municipal Corporation and such release of sewage water is polluting the water bodies and affecting the lives and health of the living beings surviving on the water bodies. The Respondent No. 1, Vasai- Virar City Municipal Corporation, is required to install the STPs in their wards and such STPs should be installed according to the sewage generated in the respective wards. However, the Respondent No. 1 has till date failed to install any such STPs, thereby violating the guidelines and directions issued by the Respondent No. 2, Maharashtra Pollution Control Board. Respondent No. 2, by exercising the powers conferred u/s. 33A of the Water Act, had issued various directions and guidelines dated 21.07.2016, 04.08.2017 and 25.10.2018 to Respondent No. 1 to implement long term and short-term measures for the treatment and disposal of sewage. The Respondent No. 2 further observed that the Respondent No. 1 is generating sewage to the tune of 105 MLD and no sewage is treated or partially treated and 105 MLD of the sewage is being discharged into the Pelhar river without treatment. The Applicant further states that as the Respondent No. 1 failed to adhere to the directions and guidelines issued by the Respondent No. 2, the

Respondent No. 2, vide letter dated 25.04.2019, directed the Respondent No. 1 to pay an amount of Rs. 10,50,000/- (Rupees Ten Lakhs and Fifty Thousand Only) per day (i.e. one paise/per ltr.) towards the cost of remediation/pollution control. According to the recent development plan of the Municipal Corporation, following areas are reserved for the installation of STP:

Sr. No.	Name of the Village	Survey No.	Area (in Sq mtrs.)
1	Shirgaon	4, 42, 45, 341, 386	16,435
2.	Naringi	11, 12, 17	51,322
3.	Aagashi	54, 65, 66, 69, 70, 9, 10, 11	35,071
4	Gaas	411A-A	42,331
5	Aachole	21, 22, 23, 24,30,31	25,931
6.	Aachole	104	1,319
7	Rajivali	124, 123, Gokhivare 55	32, 847
8.	Manikpur	148, 149	1,028
9.	Malonde	69	12,335
10.	Umele	123	20,221
11.	Umelemaan	52, 53, 54	49,300
12.	Juchendra	209, 325	28,972

3. Illegal construction is being carried out in these areas which are specifically reserved for the installation of STPs. The Environment Audit was conducted with the help of M/s. Skylab Analytical Laboratory. M/s. Skylab Analytical Laboratory is engaged in providing services for chemical, biological, physical analysis and testing of various parameters as per relevant standards like National Ambient Air Quality Monitoring Standard (NAAQMS), Environment Protection Act, 1986, Water Act, Maharashtra Pollution Control Board (MPCB), Central

Pollution Control Board (CPCB), Factories Act, OHSAS standards etc. The Environment Status Report mentions that the samples of pollutants like Sulphur Dioxide, Nitrogen Dioxide, Amonia and various other samples were collected from different places to test the Air quality. The report also mentions thirty-two places from where Air samples were collected. However, there are no permanent Air Quality Monitoring Stations installed in the Municipal Corporation. The illegally dumped material contains toxic substances and these materials pose a serious health and safety risks to the people living in the vicinity. The illegal dumping is putting the entire community at risk and their health at stake. However, the Respondent No. 1 has failed to comply with the directions given by Respondent No. 2, thereby violating the Environment (Protection) Act, 1986. The Municipal Corporation is required to carry out environmental audit and publish environment status report. However, Respondent No. 1 has not published its report since 2015.

4. From the above, it is seen that there are serious violations of environmental norms in treating and scientifically handling the solid and liquid waste by Municipal Corporation. The photographs annexed to the application *prima-facie* support the averments. Letter of the State PCB dated 19.11.2018 mentions that the Corporation is not complying with the provisions of the Solid Waste Management Rules, 2016.

5. In terms of directions of the Hon'ble Supreme Court in Paryavaran Suraksha, (2017) 5 SCC 326, the Tribunal has been monitoring compliance in the matter of ensuring that no untreated sewage is discharged into the water bodies after 1.4.2018 in OA 593/2017 but unfortunately, the local bodies remain violating the directions and State

Governments have failed to ensure compliance. The issue of solid waste management has been dealt with by this Tribunal in OA 606/2018 in pursuance of directions of the Hon'ble Supreme Court in Writ Petition No. 888/1996, Almitra H. Patel & Anr. v. Union of India & Ors. In the said matter, the Chief Secretaries of all States/UTs were required to remain present before this Tribunal<sup>1</sup> and after interaction with them, separate orders for all States/UTs referring to the individual issues in such States/UTs,<sup>2</sup> particularly issue of legacy waste dump sites and remediation of current waste on scientific basis were dealt with and the Chief Secretaries were directed to monitor compliance every month by creating a monitoring cell, directly under them, in terms of directions of the Hon'ble Supreme Court and the District Magistrates monitoring such compliances every fortnight. The statutory timelines have come to an end. It was directed, vide order dated 10.01.2020, that compensation will be payable for failure to comply with the requirement of taking steps mentioned in Rule 22 of the SWM Rules, 2016 at scales mentioned therein, depending on the size of local bodies, from 01.04.2020 till compliance. Compensation was also directed to be recovered at the laid down scale for delay in commencing and completing the legacy waste remediation measures. The Tribunal has noted that as per data compiled by the CPCB, 351 river stretches are declared polluted. Comprehensive Environment Pollution Index (CEPI) prepared by the CPCB shows that 100 industrial clusters are polluted. The Tribunal is also dealing with the remedial action for restoration of the 351 stretches in OA 673/2018<sup>3</sup>, In Re: News item published in "The Hindu" authored by Shri Jacob Koshy, titled "More river stretches are now critically polluted: CPCB" for which

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<sup>1</sup> Vide order dated 16.01.2019

<sup>2</sup> Vide order dated 18.07.2019 (last such order is in respect of Jammu & Kashmir)

<sup>3</sup> Vide order dated 21.09.2020

the Tribunal has directed preparation and execution of action plans for each of such stretches by constituting River Rejuvenation Committees (RRCs) for all States/UTs headed by Environment Secretaries which action needs to be overseen by the Chief Secretaries at the State level and by a Central Monitoring Committee (CMC) headed by Secretary, Jal Shakti alongwith NMCG and CPCB at the national level. OA 829/2019<sup>4</sup>, Lt. Col. Sarvadaman Singh Oberoi v. Union of India & Ors. deals with the remedying of coastal pollution for which directions have been issued on the same pattern for preparation and execution of action plans by the RRCs to be overseen by the Chief Secretaries at the State level and by the CMC at the national level. The same order also deals with utilisation of treated water, being OA 148/2016, Mahesh Chandra Saxena vs South Delhi Municipal Corporation & Ors. and OA 325/2015<sup>5</sup>, Lt. Col. Sarvadaman Singh Oberoi v. Union of India & Ors., dealing with the issue of restoration of water bodies by removing encroachments and preventing pollution has been dealt with by this Tribunal. OA 176/2015, Shailesh Singh v. Hotel Holiday Regency, Moradabad & Ors.<sup>6</sup>, the Tribunal has directed monitoring of groundwater extraction to give effect to the mandate in Hon'ble Supreme Court judgment in M.C. Mehta v. Union of India & Ors. (1997) 11 SCC 312. With regard to **bio-medical waste**, the matter has been dealt with in OA 710/2017, Shailesh Singh, v. Sheela Hospital & Trauma Centre, Shahjahanpur & Ors.<sup>7</sup>, with regard to **hazardous waste**, matter has been dealt with in OA 804/2017, Rajiv Narayan v. Union of India & Ors.<sup>8</sup>, with regard to **e-waste**, matter has

<sup>4</sup> Vide order dated 21.09.2020

<sup>5</sup> Vide order dated 18.11.2020

<sup>6</sup> Vide order dated 20.07.2020

<sup>7</sup> Vide order dated 18.01.2021

<sup>8</sup> Vide order dated 29.01.2021

been dealt with in OA 512/2017, Shailesh Singh v. State of UP<sup>9</sup>, with regard to **plastic waste**, matter has been dealt with in EA 13/2019 in OA 247/2017, Central Pollution Control Board v. State of Andaman & Nicobar & Ors.<sup>10</sup> for laying down liability to pay compensation for non-compliance. By our recent order dated 5.7.2021, we have directed preparation and execution of District Environment Plans as follows:

*"Accordingly, in view of long-time failure to comply the mandate of the Constitution adversely affecting the public health and the environment and repeated failures to comply with the earlier directions on the subject, we direct*

- a. *Chief Secretaries of all the States/UTs may ensure completion of District Environment Plans (DEPs) for all the Districts, in the light of orders of this Tribunal dated 26.9.2019, 19.3.2020, 29.1.2021 and the observations in the present order and upload the same on their respective websites positively by 31.10.2021.*
- b. *The DEPs may contain data on each environmental issue covering each city, town and village. Data may show the extent of gap in compliance of laid down norms for*
  - i. *Waste Management - Municipal Solid, Plastic, Bio-Medical, Electric and Electronic, Hazardous and Construction and Demolition waste*
  - ii. *Sewage treatment and utilisation*
  - iii. *Water quality - Rivers, Water bodies, Ground Water, Coastal waters and Rain water harvesting,*
  - iv. *Industries Pollution Control including industrial clusters*
  - v. *Air Quality management includes pollution due to dust*
  - vi. *Regulating mining/ Sand mining*
  - vii. *Noise pollution*
  - viii. *Any other issues significant in the area*
  - ix. *The DEP must give timelines for accomplishment of tasks backed up with budgetary support and the officers entrusted with the job, with contact details of the nodal officer at various levels in the District*

<sup>9</sup> Vide order dated 15.01.2021

<sup>10</sup> Vide order dated 08.01.2021

- x. Scope for public participation on remedial measures like plantations*
- c. DEPs may also contain mechanism for review at different levels.*
- d. The District Magistrates may accordingly execute the action plans by reviewing the progress on various targets at least once in a month.*
- e. All the States may accordingly consolidate the DEPs and prepare their respective State Environment Plans and upload the same on their respective websites..."*

6. Since damage to environment is directly linked to the public health and neglecting compliance of environmental norms results in deaths and injuries, violation of environmental norms needs to be taken as seriously as preventing crimes of homicides and assaults. It is more serious as the victims may be wide spread and unidentified. The consequences may even affect future generations. The Tribunal has also directed preparation of District Environment Plan for all districts giving data on thematic issues for each village, town and city on websites which is to be updated periodically. Thus, it is necessary to ascertain the compliance of status and remedial action in the matter.

7. Accordingly, we constitute a joint Committee comprising CPCB, State PCB and District Magistrate, Palghar to ascertain the compliance status. The State PCB will be the nodal agency for coordination and compliance. The joint Committee will be at liberty to visit the site and interact with the stakeholders and except for site visit once, conduct proceedings online. The Committee will also be at liberty to take assistance from any other expert/institution. The report may give the Environmental Status of Vasai- Virar and mention whether the DEP for the District is in consonance with the directions of this Tribunal particularly with reference to remedial action plans on: (i) Sewage

generation, treatment and utilisation (ii) water quality of Vaitarana and Pelhar rivers at strategic locations, water quality of Creek and regulatory zone, preserving water bodies, (iii) Solid waste generation, its processing and bio-mining of legacy waste and preventing fires and nuisance due to foul odour (iv) air quality in the areas of Vasai- Virar and AQI (v) issues relating to Industrial pollution control covering compliance to Water and Air Acts as well as preventing industrial accidents and hazardous waste management and (vi) encroachments/ illegal constructions, monitoring mechanism of the action plan at DM level through District Committee and at State level by CS.

8. If the report is adverse to the Municipal Corporation, a copy of the report be furnished to the Corporation for its response, if any, before the next date. In the light of facts found, the statutory authorities will be free to take further action for enforcement of law, including initiation of prosecution and assessment and recovery of compensation on "Polluter Pays" principle, following due process of law. The joint Committee may also ascertain status of compliance of directions of the State PCB dated 25.04.2019 requiring payment of compensation @ Rs. 10 lakhs per day.

The applicant may serve a set of papers on CPCB, State PCB and District Magistrate, Palghar and file affidavit of service within one week.

A copy of this order be forwarded to Chief Secretary, Maharashtra, CPCB, State PCB and District Magistrate, Palghar by e-mail.

List for further consideration on 25.10.2021.

Adarsh Kumar Goel, CP

Sudhir Agarwal, JM

M. Sathyanarayanan, JM

Dr. Nagin Nanda, EM

July 12, 2021  
Original Application No. 32/2021 (WZ)  
DV

Photographs taken during the Committee Visit on 22.10.2021



Photo- STP ( Inlet Sample)

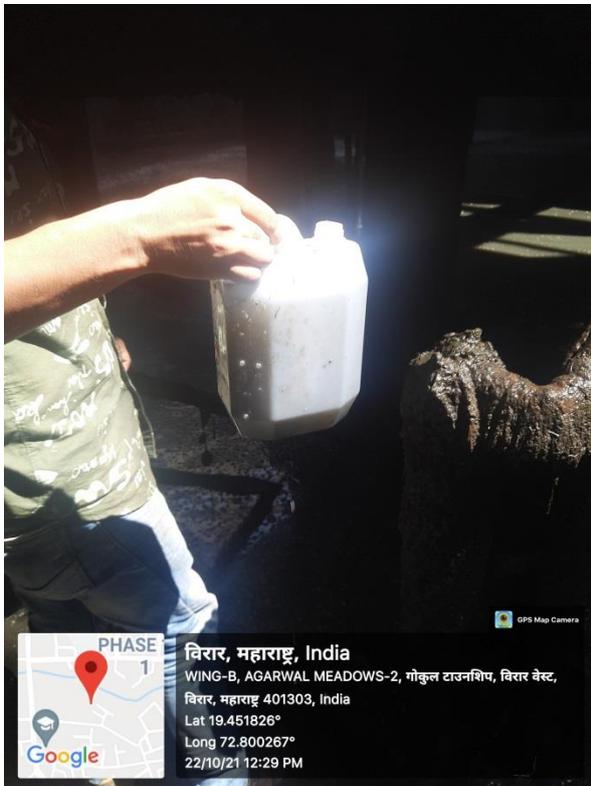




Photo- STP (Outlet Sample)



Photo-Narangi Nala, Narandi Gaon, Virar, near Bhavani Mata Temple

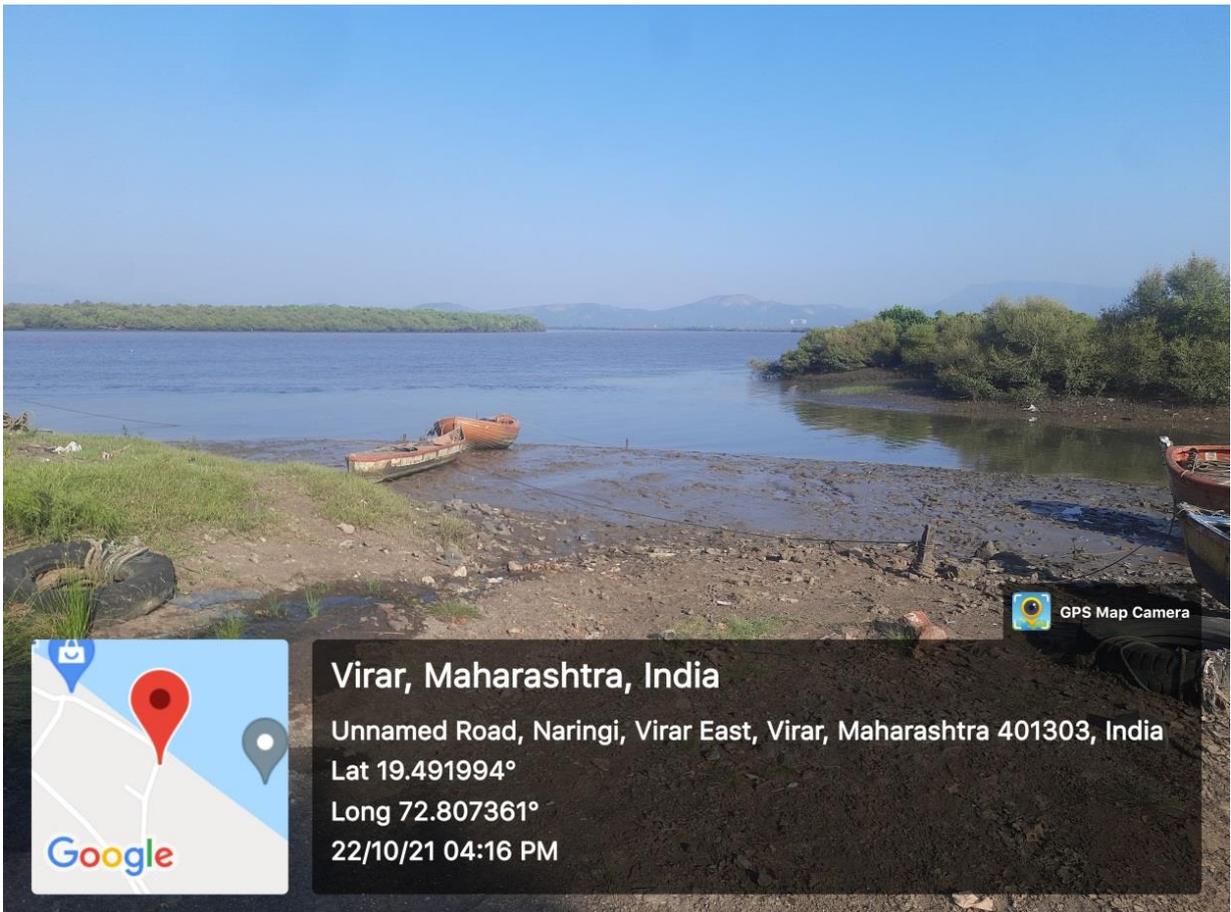


Photo-Vaitarna River

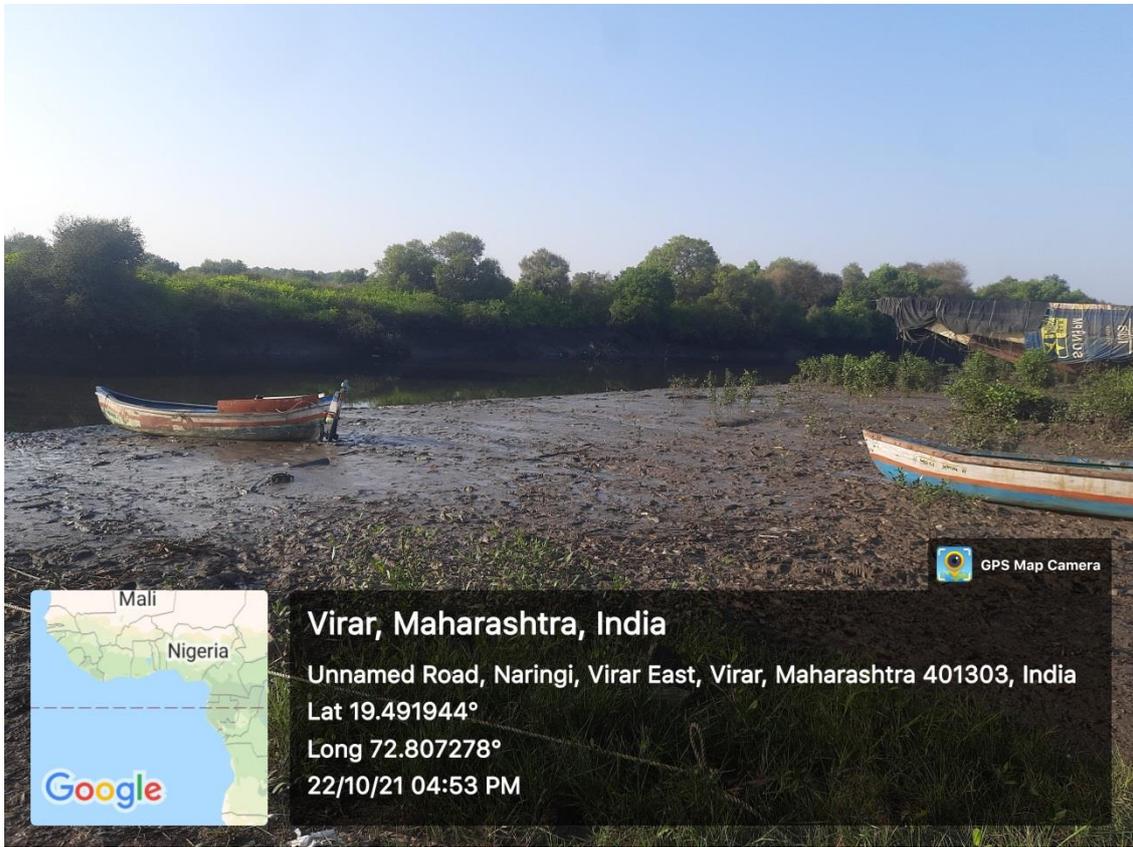


Photo- Chikhal Dongri Nala, Chikhal Dongri Gaon, Virar

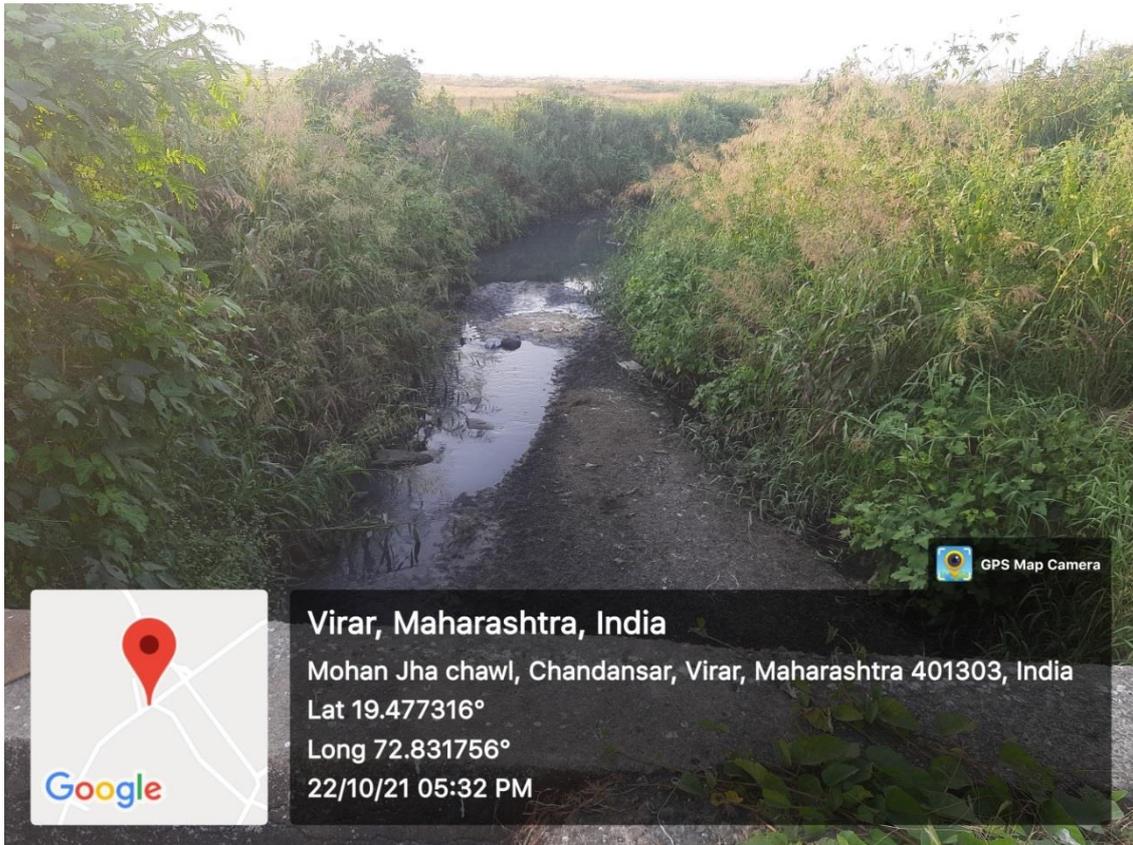
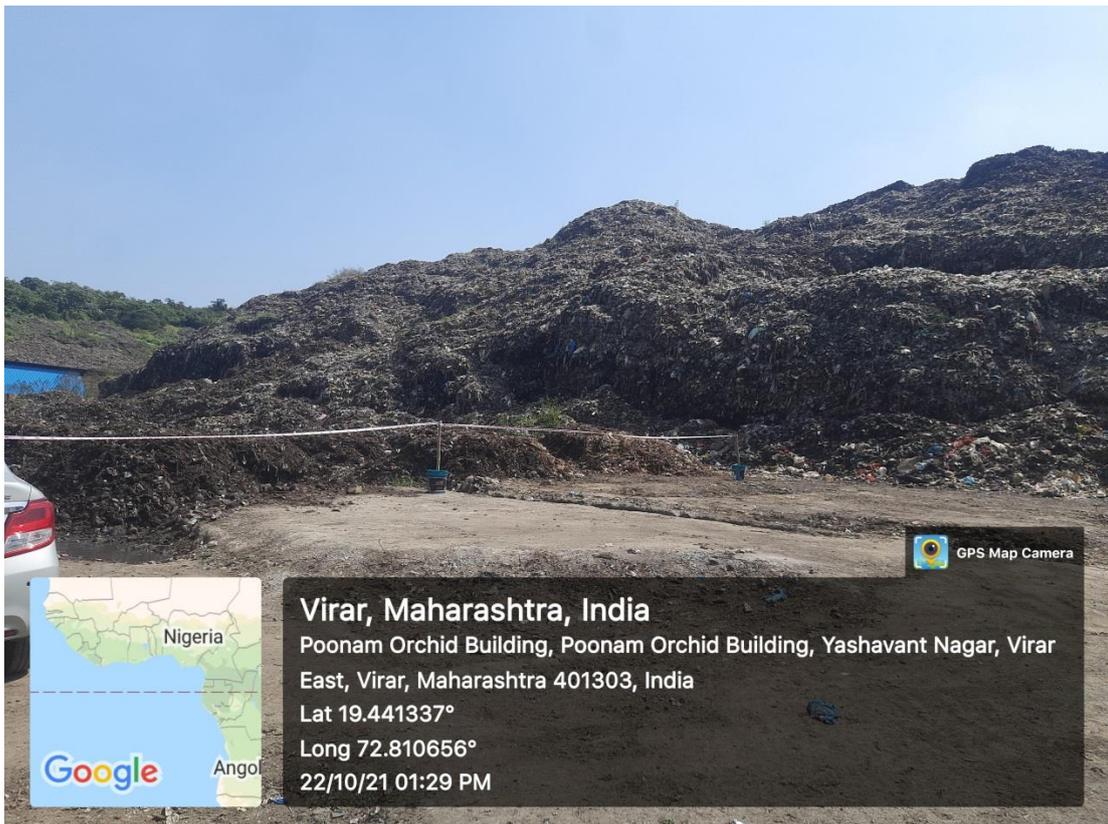
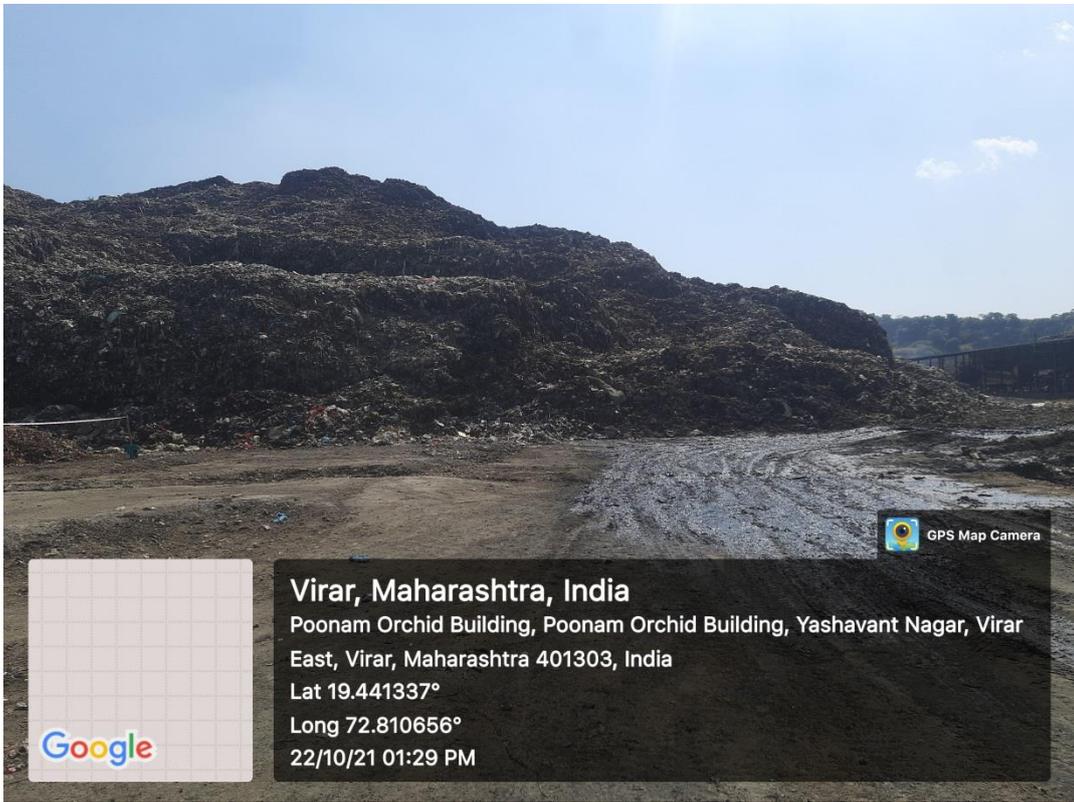


Photo- Shirgaon Nala, Shirgaon Gaon, Virar



Photos-MSW Site, Gokhiware

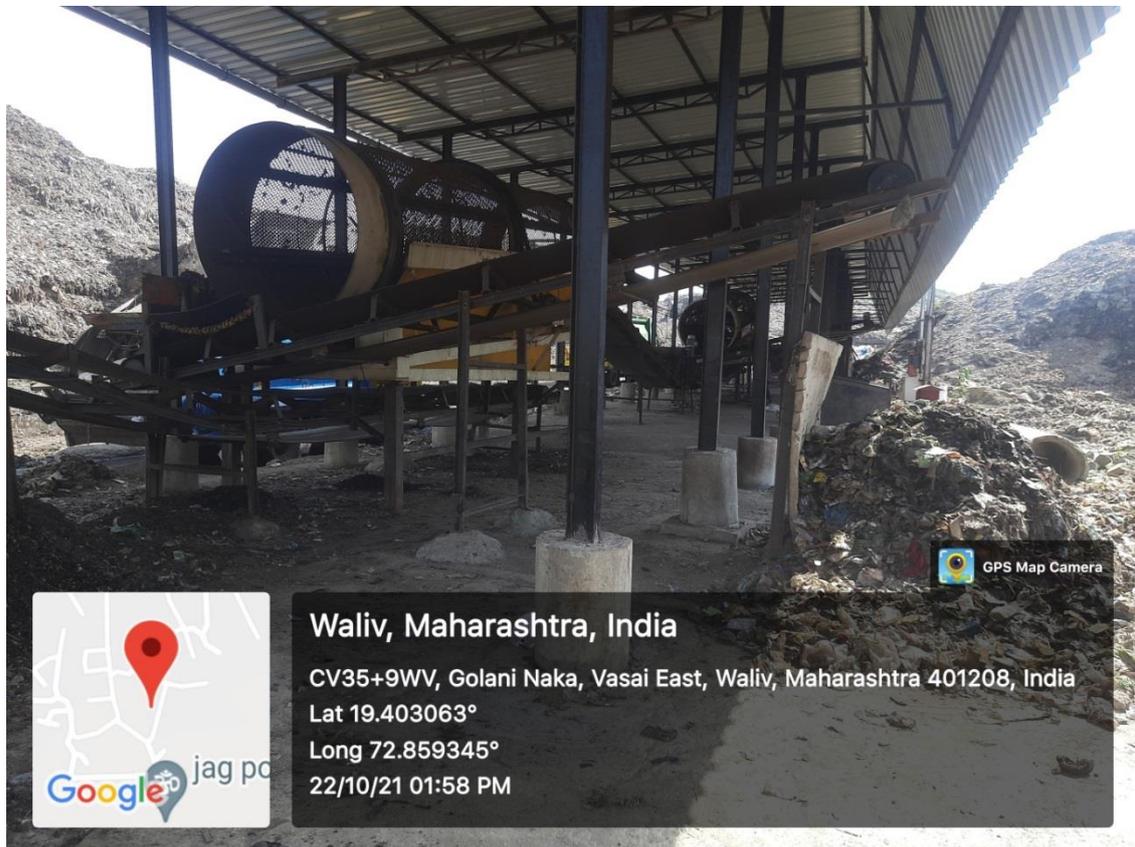


Photo-Trommels at MSW Site, Gokhiware



Photo-Window Composting at MSW Site, Gokhiware

मुख्य कार्यालय, विरार  
विरार (पूर्व),  
ता. वसई, जि. पालघर, पिन-४०१ ३०५.



दुरध्वनी : ०२५०-२५२५१०१/०२/०३/०४/०५/०६

फॅक्स : ०२५०-२५२५१०७

ई-मेल : [vasaivirarcorporation@yahoo.com](mailto:vasaivirarcorporation@yahoo.com)

जा.क्र. : वविसाम/पर्या/९१/२०२१-२२

दि. : ०६/१०/२०२१.

प्रति,  
मा.जिल्हाधिकारी,  
मा.जिल्हाधिकारी व जिल्हादंडाधिकारी कार्यालय,  
पालघर.

विषय :- मा.राष्ट्रीय हरीत लवाद, नवी दिल्ली येथे दाखल याचिकेमधील  
दि.१२.०७.२०२१ रोजीच्या आदेशाची अंमलबजावणी करणेबाबत.

संदर्भ :- १) मा.राष्ट्रीय हरीत लवाद, नवी दिल्ली येथे दाखल याचिका क्र.३२/२०२१  
मधील आदेश दि.१२.०७.२०२१.

२) मा.प्रादेशिक अधिकारी, महाराष्ट्र प्रदुषण नियंत्रण मंडळ, ठाणे यांचे पत्र  
No.MPCB/ROT/B-389 Dtd.30/09/2021.

महोदय,

उपरोक्त विषयी संदर्भ क्र.१ अन्वये पारीत आदेशानुसार वसई-विरार शहर महानगरपालिकेने घन व द्रव्य  
कचऱ्याची शास्त्रोक्त पद्धतीने विल्हेवाट न लावता पर्यावरण विषयक मापदंडाचे उल्लंघन केल्याप्रकरणी कार्यवाही  
करणेबाबतचे आदेश दिलेले आहेत.

सदर आदेशानुसार वसई-विरार शहर महानगरपालिकेच्या संबंधीत विभागाने त्यांच्या विभागाचा अहवाल  
सादर केलेला आहे. सदरचा अहवाल संदर्भ क्र. २ च्या बैठकीच्या अनुषंगाने माहितीस्तव उपलब्ध करून देण्यात येत  
आहे.

*(गंगाधरण डे)*  
आयुक्त

वसई-विरार शहर महानगरपालिका

# MAHARASHTRA POLLUTION CONTROL BOARD

Tel: 25802272

Fax: 25805308

Website: <http://mpcb.gov.in/>

E-mail id: [rothana@mpcb.gov.in](mailto:rothana@mpcb.gov.in)

No. MPCB/ROT/B- 38/21



Regional Office, Thane  
5<sup>th</sup> Floor, Office Complex Bldg.  
Near Mulund Check Naka,  
Wagle Estate,  
Thane-400 604

Date: 30/09/2021

To,  
The Municipal Commissioner,  
Vasai Virar City Municipal Corporation,  
Virar (E), Tal-Vasai, Dist-Palghar

Sub :- 1<sup>st</sup> meeting of the Joint Committee.

Ref :- 1) Hon'ble NGT, Principal Bench, New Delhi (WZ) Order  
dtd. 12/07/2021.

2) An application filed by Mr. Charan Ravindra Bhatt.  
Original Application No. 32/2021 (WZ).

3) This office letter dtd. 23.09.2021

Sir,

Shri. Charan Ravindra Bhatt has filed the Original Application No 32/2021(WZ) against the Vasai Virar City Municipal Corporation & Anr. before the Hon'ble National Green Tribunal against failure of Vasai-Virar Municipal Corporation in performing its statutory obligation of providing clean environment by scientific disposal of solid and liquid waste.

As per the Hon'ble NGT vide order dated 12/07/2021, MPCB has constituted a joint committee comprising of CPCB, MPCB, and District Magistrate, Palghar to ascertain the compliance status.

The Hon'ble District Collector has ordered to constitute the 1<sup>st</sup> meeting of this joint committee on 07/10/2021 at 4:00 PM venue - Collector's Office, Palghar.

Herewith, you are requested to submit the following information to the committee within 3 days.

- (i) Sewage generation, treatment and utilisation of VVCMC area.
- (ii) Water quality of Valtarana and Pelhar rivers at strategic locations, water quality of Creek and regulatory zone, preserving water bodies,
- (iii) Solid waste generation, its processing and bio-mining of legacy waste and preventing fires and nuisance due to foul odour
- (iv) Air quality in the areas of Vasai- Virar and AQI
- (v) Issues relating to Industrial pollution control covering compliance to Water and Air Acts as well as preventing Industrial accidents and hazardous waste management in corporation area.
- (vi) Encroachments/ illegal constructions, monitoring mechanism of the action plan at DM level through District Committee and at State level by CS.

You are requested to remain present along with this all information on 07/10/2021 at 4:00 PM venue - Collector Chamber, Collector Office, Palghar.



(Rajendra Rajput)

Regional Officer, Thane

Copy submitted for information :-

- 1) Hon'ble District Collector, Palghar
- 2) JD (WPC), M.P.C. Board, Slon, Mumbai
- 3) Additional Director (Scientist 'E'), Regional Directorate, CPCB, Pune
- 4) Senior Law Officer, M.P.C. Board, Slon, Mumbai

**Compliance with respect to Orders dated 12/07/2021 passed by Hon'ble NCT in Original Application No. 32/2021(WZ)**

Sr. No.	Parameter	Existing status	Proposed Action Plan	Limitations
1	Sewage Generation, treatment and Utilization of VVCMC area.	<p>Vasai Virar City Municipal Corporation located in Vasal Taluka of Palghar District was formed by merging four municipalities namely Vasal, Virar, Navghar Manikpur and Nalasopara and 53 villages in the surrounding area. Established on July 3, 2009 covering area of 311 Sq.Km According to the 2011 census, the population of the city is 12,21,786 and the current population is approximately 24 lakhs. At present the total amount of water supply from Pelhar, Surya Scheme 1 &amp; 3 and Usgaon is 231 MLD excluding water loss, amount of water supply in the city is 196.35 MLD on every day basis. Out of which 156.28 MLD sewerage is being generated in the city. Sewage being treated as follows</p> <p>A. Approximate 22 MLD Sewage is being treated at STP Zone 2 situated at Bolinj (with capacity 30 MLD)</p> <p>B. Approximate 28 MLD of sewage is being treated at private STP's of large Township projects. (List attached separately)</p> <p>C. Under the swatch Bharat programme with the help of Government support about 173 public latrines, 56 Community latrines and 10607 Indivisible latrines with SEPTIC TANKS are constructed in corporation area. where as privet Society septic tank are around 88665 in numbers. In septic tank, preliminary treatment is being done on sewage &amp; after the treatment, only treated water disposed off.</p> <p>D. Pelher river is non perennjal river and it runs in rainy season. E. This river is not a source of drinking water.</p>	<p>Vasai Virar City Municipal Corporation's domestic waste Water treatment 7 STP Zone for the entire urban area has been proposed out of which STP Zone 2 Bolinj worked has been completed and masterplan of Rs. 1231.96 Crore for the remaining 6 STP zone has been created. The detailed project report was submitted to the nodal agency MMRDA under the scheme UIDSST. While the letter dated 11/02/2014 was submitted to the Government of Maharashtra with recommendation, the State Government directed the Mumbai Metropolitan Region Development Authority to submit the proposal to the Central Government on 17/02/2014. Accordingly MMRDA dated 17/02/2014 has submitted the detailed project report for approval under the Central Government's UIDSST scheme.</p>	The project has not been approved yet
		<p>Under SAAP of year 2017-18. Rs. 170 crores is sanctioned Accordingly DPR of Nalasopara east area of zone 3 is prepared and submitted to MJP the nodal agency of Amrut, for approval</p>		Due to diversion of funds to MMRDA project the work is not sanctioned by state Govt
			<p>In the first phase, VVCMC has prepared a master plan for the construction of underground sewerage scheme and sewerage</p>	Submitted to Government for approval & Grant

			system for 7 urban areas for the scientific disposal of 80% of the currently available and future available wastewater. Out of these, detailed project report of sewerage scheme of Nalasopara Zone No. 3 has been prepared.
2	Water quality of Vaitarana & Pelhar Rivers at strategic locations, water quality of Creek & regulatory zones preserving water bodies.	<p>1. Pelhar River originates from Pelhar Dam and is basically not perennial river it is a seasonal river. Total length of Pelhar River from Pelhar dam to Sopara creek is 10 Km. Pelhar River water is not used for any purpose including drinking, bathing, washing and recreational purpose. Being Pelhar is a seasonal river there is no water in river after rainy season. Pelhar river meet creek at Golani naka. Sopara creek is far away from Golani naka. The capacity of Pelhar Dam is about 4000 ML and daily about 10 ML of water is lifted from Pelhar dam and same is treated in Pelhar water treatment plant regularly and supplied to area through distribution system.</p> <p>2. Vasai Virar City Municipal Corporation has not provided any sewage collection system and STPs in the area on the Bank of Pelhar River. Sewage generated from the cities or villages along the river has been discharged into the river causing river pollution. Basically Major part of city Vasai Virar is situated on the bank of Vasai creek and not on the bank of Pelhar river. Pelhar river is flowing from the part of city and sewage from all area is not discharged in Pelhar river. In the MERI study report it is clearly mentioned that 0.89 MLD of sewage is let out as under in dry /un perennial river and when the river remains un perennial for about 8 months no question of Pollution of river water remains.</p> <p>3. The part of Vaitarna river is not included in the municipal area and Vaitarna creek is coming at the gate of the city.</p> <p>4. Water quality inspection work of Vaitarna river is expected to be done by Irrigation Department. It is also expected to check the water quality of Vaitarna Bay through the Maritime Board.</p>	

**VASAI VIRAR CITY MUNICIPAL CORPORATION**  
Compliance with respect to Orders dated 12.07.2021 passed by Hon'ble NGT in  
Original Application No.32/2021 (WZ)

Sl. No.	Indicator	Existing Status	Proposed Action Plan	Limitation
A	<b>Solid Waste Management</b>			
1.	MSW Generation	i) 620 TPD (i.e 326gram waste generation per capita)		
2.	MSW Collection	i) 600 TPD (As 20 TPD is decentralised processed) i.e MSW Collection = 100%		None
3.	Solid Waste Processing	<p>i) In 2008:</p> <p>a) M/s. Hanjer Biotech Energies Ltd. had signed an agreement with VVCMC for 300 TPD waste processing plant at Gothhware site, remains operational from 2010 to Nov 2013.</p> <p>b) After Nov 2013 the plant shut down due to occurrence of fire &amp; Company's internal issues.</p> <p>ii) In 2014:</p> <p>a) Under the guidance of BARC VVCMC taken Pilot Project of Removal of Methane at dumpsite.</p> <p>b) The plant was installed and remained operational till May 2017.</p> <p>c) Due to some disadvantages involved like frequently shifting plant, non-operation in Mansoon &amp; Winter Season and financial constraint the project stopped.</p> <p>iii) From Oct 2017 till date:</p> <p>VVCMC adopted Windrow Method for Processing Daily Fresh MSW.</p> <p>iv) Approval of DPR of Solid Waste Management is awaited since 2014 till date</p> <p>a) DPR of Rs. 413 Cr. submitted to GoM in Jun 2014, Aug 2014, Aug 2015, Dec 2015 and Feb 2019.</p> <p>b) Revised DPR of Rs. 147Cr. Submitted to State High Power Committee on 29th Aug 2019.</p> <p>c) Revised DPR of Rs. 129.54Cr submitted to UDD, GoM on 12th Jan 2021 .</p>		
	<p>vi) Present Status:</p> <p>i) Two Segregating Trommel Machines each of capacity 300TPD for Processing daily fresh waste and are in operational.</p> <p>ii) VVCMC has adopted windrow composting method for processing 100TPD MSW.</p> <p>iii) Around 20 BWGs (Bulk waste Generators practicing on-site wet waste composting.</p> <p>iv) Total 7 Biogas Plants each of 10kg/day capacity installed in 7 prominent Municipal Gardens to process garden and floral waste.</p>	<p>i) Tender called for processing 600TPD Daily Collected Fresh Waste on 28.08.2021.</p> <p>ii) Tender to install Plant for processing Green Waste of 10TPD Capacity is under process.</p> <p>iii) Tender called for Erection of Biogas Plant for the 30TPD capacity</p>	<p>i) Revised Integrated SWM DPR of Rs. 129.54Cr submitted to UDD, GoM of which approval is awaited.</p> <p>ii) Thus, due to lack of Funds VVCMC is unable to achieve 100% Processing target</p>	

Sl. No.	Indicator	Existing Status	Proposed Action Plan	Limitation
	4. Processing of Legacy Waste	<p>i) Located at (Survey No.30A, 31, 32), Gokhware, Vasal East</p> <p>ii) Area = 2.6 Hectare (26000 sq.m)</p> <p>iii) SLF Developed Under Urban Infrastructure Development Scheme for Satellite Town (UIDSST) to dispose Inert waste segregated during processing legacy waste.</p> <p>iv) Tender for Bio-Minring floated by VVCMC in the consecutive year 2017, 2018, 2019 and 2020 respectively.</p> <p>As no response received from bidders For Bio-Minring Project, VVCMC Purchased 4 (Nos.) Segregating Trommel Machines each of capacity 300TPD for Processing Legacy Waste as well as daily fresh waste and are in operational.</p>	6 (Nos.) Segregating Trommel Machines each of 300TPD is under proposal	<p>i) Revised Integrated SWM DPR of Rs. 129.54Cr submitted to UDD, GoM of which approval is awaited.</p> <p>ii) Thus, due to lack of Funds VVCMC is unable to achieve 100% Processing target</p>
	5. Measures to Control Fire & Odour	<p>i) Culture is spread on Daily Fresh MSW for rapid decomposition and odour removal at dumping site.</p> <p>ii) In 2014 Methane Removal Plant was installed and remained operational till May 2017.</p> <p>iii) Due to some disadvantages involved like frequently shifting plant, non-operation in Mansoon &amp; Winter Season and financial constraint the project stopped.</p>		<p>i) Revised Integrated SWM DPR of Rs. 129.54Cr submitted to UDD, GoM of which approval is awaited.</p> <p>ii) Thus, due to lack of Funds VVCMC is unable to achieve 100% Processing target</p>
	6. IEC & Other Initiatives taken by VVCMC	<p>i) VVCMC made mandatory clause to construct waste processing plant at new building construction project to obtain OC.</p> <p>ii) 5% rebate provided on property tax for on-site waste processing to encourage maximum participation of citizens.</p> <p>iii) Exhibition on Waste Management organised.</p> <p>iii) 150 Municipal gardens out of 96 Municipal Gardens are handover to these 96 SHGs for its O&amp;M on contractual to empowered women as well as garden waste management.</p>		None
8	Plastic Waste Management			
	Initiative taken by VVCMC	<p>i) Plastic waste is segregated &amp; Collected at source by VVCMC Sanitary Workers</p> <p>ii) 47 waste pickers are authorised and their SHGs formed under DAY NULM. They collect &amp; sale plastic waste to recyclers to support their livelihood.</p> <p>iii) Plastic Ban campaigning is done on regular basis in every wards to discourage use and sale of plastic &lt; 50micron under Plastic Waste Management Rule 2016. Penalty imposed to discourage single use plastic.</p> <p>iv) Workshops conducted and NGOs/Social Groups engaged working with civil societies to create awareness among citizen and stakeholders.</p>	Tender called for processing 600TPD Daily Collected Fresh Waste on 28.08.2021.	<p>i) Revised Integrated SWM DPR of Rs. 129.54Cr submitted to UDD, GoM of which approval is awaited.</p> <p>ii) Thus, due to lack of Funds VVCMC is unable to achieve 100% Processing target.</p>

Sl. No.	Indicator	Existing Status	Proposed Action Plan	Limitation
C	Domestic Hazardous Waste Management			
3	Domestic Hazardous Waste	i) Hazardous waste generated from Public Toilets treated in Sanitary Disposal Incinerator which is installed at 18 Public Toilets. ii) Door to Door IEC awareness for Domestic Hazardous Waste segregation is conducted.	Tender called for processing 600TPD Dally Collected Fresh Waste on 28.08.2021.	i) Revised Integrated SWM DPR of Rs. 129.54Cr submitted to UDD, GoM of which approval is awaited. ii) Thus, due to lack of Funds VVCMC is unable to achieve 100% Processing target

  
 (Manoj Shinde)  
 Assisntant Municipal Commissioner  
 Solid Waste Management  
 Vasai Virar City Municipal Corporation

  
 (Ajinkya Bagade)  
 Deputy Commissioner  
 Solid Waste Management  
 Vasai Virar City Municipal Corporation

(Santosh Deherkar)  
 Additional Commissioner  
 Vasai Virar City Municipal Corporation

## Annexure III

## Activates Statement

Sr. No	Mitigation Measures	Amount	Status of work
<b>A</b>	<b>Control of Vehicular Emission &amp; Traffic Improvement Measures</b>		
1	Procurement of Hybrid Electric Bus	40000000	Preparation of revise tender
2	Procurement of CNG Bus	68000000	Preparation of revise tender
3	Pay & Park Facility behind VVCMC Head Office	66000000	Detailed concept and design shall be finalized by 30/10/2021
	<b>A</b>	<b>174000000</b>	
<b>B</b>	<b>Resuspension</b>		
4	Creation of the Green Zone by Miyavaki Method	17000000	Tender Published.
	<b>B</b>	<b>17000000</b>	
<b>C</b>	<b>Re-suspension of Road Dust &amp; Other Fugitive Emission</b>		
5	Vacuum Mechanical Sweeping	12000000	Two Vacuum Mechanical Sweeping Machines were purchased by VVCMC at cost Rs. 3.82 Cr. we were submitted Utilization Certificate.
6	Water Fountains for Major Traffic Intersections	18000000	Tender form, detail Survey , Design and Estimate works in progress.
7	Wind Augmentation Purifying Unit (WAYU) By CSIR	4800000	Tender recalled 3rd time date 08/10/2021
	<b>Sub Total</b>	<b>34800000</b>	
<b>D</b>	<b>Control of Air Pollution from Bakeries/ Crematoria</b>		
8	LPG/PNG Process in Crematorium	84000000	One work completed. LPG Base Crematorium Supplied on site and installation is in progress. Rs. 52.00 Lacs Paid to contractor for supply of materials Tender form, details Design and Estimate works in progress
<b>E</b>	<b>City Specific Action</b>		
9	Air Monitoring System	10500000	Envelope - 1 open
	<b>Total (A+B+C+D+E)</b>	<b>320300000</b>	

**Compliance with respect to issues raised by Hon'ble NGT Dated 12/07/2021**

Sr. No.	Point raised by Hon. NGT	Reply & future Plan
1	<p>Only one STP with a capacity of 30 million liters per day (mld) has been installed. Further, only fifteen mld sewage is being treated in the STP. One hundred and eighty-four mld sewage water is being generated in the Vasai-Virar City Municipal Corporation and the same is released in the water bodies and ocean situated near the Municipal Corporation, thereby, creating pollution in the water bodies. This is drastically affecting the environment and creating oceanic and aquatic pollution. Furthermore, the untreated water is released in the nearby water body which is affecting the environment. The Applicant submits that there are more than ninety water bodies in the region of the Municipal Corporation and such release of sewage water is polluting the water bodies and affecting the lives and health of the living beings surviving on the water bodies.</p>	<p>Vasai Virar City Municipal Corporation located in Vasai Taluka of Palghar District was formed by merging four municipalities namely Vasai, Virar, Navghar Manikpur and Nalasopara and 53 villages in the surrounding area. Established on July 3, 2009 covering area of 311 Sq.Km According to the 2011 census, the population of the city is 12,21,786 and the current population is approximately 24 lakhs. At present the total amount of water supply from Pelhar, Surya Scheme 1 &amp; 3 and Usgaon is 231 MLD excluding water loss, amount of water supply in the city is 196.35 MLD on every day basis. Out of which 156.28 MLD sewerage is being generated in the city.</p> <ol style="list-style-type: none"> <li>1. Under central govt. programme named Satellite City Rs. 66.22 Crores for VVCMC region name Bolinj (Zone no. 2). 30 MLD STP project on date 8/08/2019 has been allotted administrative approval. At present 99.9 % of project completion has been done.</li> <li>2. The VVCMC has made compulsory to the new property developers to construct their STP in their premises and it is obligatory for them to treat their sewage and reuse it for gardening and flushing purpose Accordingly, during passing of plan of developers at about 40 places 101 STP of 59 50 MLD capacity are proposed out of which work of 21 STP are completed and work of 46 STP is in progress. Approximate upto 28 MLD capacity private STP is running.</li> <li>3. VVCMC constructed 173 public latrines, 56 Community latrines and 10607 Indivisible latrines with SEPTIC TANKS are constructed in corporation area. From this septic tanks approx. 8 MLD sewage being treated. Thus approximate 66 MLD sewage is being treated by corporation/private STPs.</li> <li>4. Also there are 88665 Societies which have septic tanks for their waste water. In septic tank, preliminary treatment is being done on sewage &amp; after the treatment, only treated water disposed off.</li> </ol> <p align="center">In this way VVCMC is taking utmost efforts for avoiding river water pollution.</p>
2	<p>The Respondent No. 1, Vasai- Virar City Municipal Corporation, is required to install the STPs in their wards and such STPs should be installed according to the sewage generated in the respective wards. However, the Respondent No. 1 has till date failed to install any such STPs, thereby violating the guidelines and directions issued by the Respondent No. 2, Maharashtra Pollution</p>	<p>Vasai-Virar City Municipal Corporation notified by Government in 2009. Vasai Virar City Municipal Corporation desire to provide Sewerage system to whole Municipal area and hence through consultant prepared a DPR in which city is divided in various 20 Zones and the DPR is submitted to Govt. for approval in Satellite city programme.</p>

Control Board.	<p>The State Government sent a proposal to the Central Government under the scheme of UIDSSST wherein the basic infrastructure is provided to selective Satellite Cities. In which out of 20 zones DPR for 7 zones DPR costing Rs. 557.68 Crores is submitted to Central Govt. under the recommendation of State Govt.</p> <p>Out of the total amount of Rs. 557.68 Crores DPR of Underground Sewerage System, CPHEEO Dept. of Central Govt has appraised an amount of Rs. 100.6517 Crores as first Phase for the work of Virar region (STP-1 and STP-2) under the scheme. However, the Ministry of Urban Development of Govt of India has sanctioned an amount of 66.22 Crores for Virar STP-2., for which work is completed and scheme is commissioned IN July 2017. Revised DPR costing Rs 1237 crores is submitted to MMRDA through Govt. Of Maharashtra for approval on 17.4.2014 for balance 6 STP for which approval is awaited.</p> <p>Revised DPR costing Rs 1237 crores is submitted to MMRDA through Govt. Of Maharashtra for approval on 17.4.2014 for balance 6 STP for which approval is awaited. Time line for project is taken as 36 months from approval. In this way Corporation before issue of directions from MPCB in 2014 has taken measures for the treatment and disposal of sewage.</p> <p>In the sanctioned scheme of Rs. 66.22 Crores work of 66 Km Collection system and 30 MLD STP was proposed but for betterment VVCMC; through own funds constructed additional 15 Km collection system and constructed Inlet work for 52 MLD considering future demand. In this way the VVCMC is taking utmost efforts for increasing coverage of Underground drainage.</p> <p>Under SAAP of year 2017-18. Rs. 170 crores is sanctioned Accordingly DPR of Nalasopara east area of zone 3 is prepared and submitted to MJP the nodal agency of Amrut, for approval. But due to diversion of funds to MMRDA project the work is not sanctioned by state Govt.</p> <p>As per the Norms of CPHEEO the underground drainage system is to be provided to the areas having 135 LPCD water supplies. At present in VVCMC area water is supplied at the rate of 80-90 LPCD. In rural areas water supply is made through open well, bore well and by tankers thus in such areas drainage scheme will not be feasible as per CPHEEO norms at this stage. Hence in all such areas, public and private latrines are provided and the city is declared as ODF in 2018. Under the swachh Bharat programme with the help of Government</p>
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		<p>support about 173 public latrines, 56 Community latrines and 10607 Indivisible latrines with SEPTIC TANKS are constructed in corporation area.</p> <p>The VVCMC is form In July 2009 and after closing of octroi / LBT only house tax remains main source of Income. Form this Income major amount is spent on basic amenities like health, Solid waste management and water supply department. Beside that other expenditure on development of Infrastructure are made. In such situation it becomes very difficult to execute such big projects from own funds. However VVCMC has executed projects of 100 MLD Water Supply, Virar Underground drainage scheme. During the short period of corporation.</p> <p>Financial closer is one of the most important factors in execution of such big project and without Government support it will not be possible for ULB to execute the project from their own funds. And hence VVCMC is not able to implement the project, hence it is requested that MPCB should help VVCMC in availing approvals and financial support for execution of sewage projects.</p>
3	<p>Respondent No. 2 (i.e. MPCB), by exercising the powers conferred u/s. 33A of the Water Act, had issued various directions and guidelines dated 21.07.2016. 04.08.2017 and 25.10.2018 to Respondent No. 1 to implement long term and short-term measures for the treatment and disposal of sewage.</p>	<p>As stated above revised DPR costing Rs 1237 corers submitted to MMRDA through Govt. Of Maharashtra for approval on 17.4.2014 for balance 6 STP for which approval is awaited. Time line for project is taken as 36 months from approval. In this way Corporation before issue of directions from MPCB in 2014 has taken measures for the treatment and disposal of sewage.</p> <p>Under SAAP of year 2017-18. Rs. 170 crores is sanctioned Accordingly DPR of Nalasopara east area of zone 3 is prepared and submitted to MJP the nodal agency of Amrut, for approval. But due to diversion of funds to MMRDA project the work is not sanctioned by state Govt.</p> <p>Recently corporation has revised the DPR of Nallasopara (E) Zone -3 for Rs. 365 Corers and submitted to State Govt. for approval and grant.</p> <p>The VVCMC has made compulsory to the new property developers to construct their STP in their premises and it is obligatory for them to treat their sewage and reuse it for gardening and flushing purpose Accordingly, during passing of plan of developers at about 40 places 101 STP of 59 50 MLD capacity are proposed out of which work of 21 STP are completed and work of 46 STP is in progress.</p>

4	<p>The Respondent No. 2 further observed that the Respondent No. 1 is generating sewage to the tune of 105 MLD and no sewage is treated or partially treated and 105 MLD of the sewage is being discharged into the Pelhar river without treatment.</p>	<p>According to the 2011 census, the population of the city is 12,21,786 and the current population is approximately 24 lakhs. At present the total amount of water supply from Pelhar, Surya Scheme 1 &amp; 3 and Usgaon is 231 MLD excluding water loss, amount of water supply in the city is 196.35 MLD on every day basis. Out of which 156.28 MLD sewerage is being generated in the city. Sewage being treated as follows.</p> <ol style="list-style-type: none"> <li>1. Under central govt. programme named Satellite City Rs. 66.22 Crores for VVCMC region name Bolinj (Zone no. 2). 30 MLD STP project on date 8/08/2019 has been allotted administrative approval. At present 99.9 % of project completion has been done and commissioned. Presently Approx. 22 MLD sewage is being treated in this STP.</li> <li>2. The VVCMC has made compulsory to the new property developers to construct their STP in their premises and it is obligatory for them to treat their sewage and reuse it for gardening and flushing purpose Accordingly, during passing of plan of developers at about 40 places 101 STP of 59 50 MLD capacity are proposed out of which work of 21 STP are completed and work of 46 STP is in progress. Approximate upto 28 MLD capacity private STP is running. (Reference Annexure I)</li> <li>3. Under the swatch Bharat programme with the help of Government support about 173 public latrines, 56 Community latrines and 10607 Indivisible latrines with SEPTIC TANKS are constructed in corporation area. (Reference Annexure I)</li> <li>4. Also there are 88665 Societies which have septic tanks for there waste water. In septic tank, preliminary treatment is being done on sewage &amp; after the treatment, only treated water disposed off.</li> </ol> <p>In this way VVCMC is taking utmost efforts for avoiding river water pollution.</p> <ol style="list-style-type: none"> <li>1. Pelhar River originates from Pelhar Dam and is basically not perianal river it is a seasonal river. Total length of Pelhar River from Pelhar dam to Sopara creek is 10 Km. Pelhar River water is not used for any purpose including drinking, bathing, washing and recreational purpose. Being Pelhar is a seasonal river there is no water in river after rainy season. Pelhar river meet creek at Golani naka. Sopara creek is far away from Golani naka. The capacity of Pelhar Dam is about 4000 ML and daily about 10 ML of water is lifted from Pelhar dam and same is treated in Pelhar water treatment plant regularly and supplied to area through distribution system.</li> </ol>
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		<p>2. Vasal Virar City Municipal Corporation has not provided any sewage collection system and STPs in the area on the Bank of Pelhar River. Sewage generated from the cities or villages along the river has been discharged into the river causing river pollution.</p> <p>Basically Major part of city Vasal Virar is situated on the bank of Vasal creek and not on the bank of Pelhar river.. Pelhar river is flowing from the part of city and sewage from all area is not discharged in Pelhar river. In the MERI study report it is clearly mentioned that 0.89 MLD of sewage is let out as under in dry /un perennial river and when the river remains un perennial for about 8 months no question of Pollution of river water remains.</p> <p>Under the swatch Bharat programme with the help of Government support about 173 public latrines, 56 Community latrines and 10607 Indivisible latrines with SEPTIC TANKS are constructed in corporation area.</p> <p>The VVCMC has made compulsory to the new property developers to construct their STP in their premises and it is obligatory for them to treat their sewage and reuse it for gardening and flushing purpose Accordingly, during passing of plan of developers at about 40 places 101 STP of 59 50 MLD capacity are proposed out of which work of 21 STP are completed and work of 46 STP is in progress.</p> <p>In this way VVCMC is taking utmost efforts for avoiding river water pollution.</p>																																
5	<p>Respondent No. 2, vide letter dated 25.04.2019, directed the Respondent No. 1 to pay an amount of Rs. 10,50,000/- (Rupees Ten Lakhs and Fifty Thousand Only) per day (i.e. one paise/per ltr.) towards the cost of remediation/pollution control</p>	<p>The compliance of the letter dated 25/04/2019 is already submitted to MPCB. And is attached as an annexure II</p>																																
6	<p>According to the recent development plan of the Municipal Corporation, following areas are reserved for the installation of STP:</p> <table border="1" data-bbox="227 1601 791 2049"> <thead> <tr> <th>Sr. No.</th> <th>Name of the Village</th> <th>Survey No.</th> <th>Area (In Sq. mtrs.)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Shirgaon</td> <td>4, 42, 45, 341, 386</td> <td>16,435</td> </tr> <tr> <td>2</td> <td>Naringi</td> <td>11, 12, 17</td> <td>51,322</td> </tr> <tr> <td>3</td> <td>Aagashi</td> <td>54, 65, 66, 69, 70, 9, 10, 11</td> <td>35,071</td> </tr> <tr> <td>4</td> <td>Gaas</td> <td>411A-A</td> <td>42,331</td> </tr> <tr> <td>5</td> <td>Aachole</td> <td>21, 22, 23, 24, 30, 31</td> <td>25,931</td> </tr> <tr> <td>6</td> <td>Aachole</td> <td>104</td> <td>1,319</td> </tr> <tr> <td>7</td> <td>Rajivall</td> <td>124, 123,</td> <td>32, 047</td> </tr> </tbody> </table>	Sr. No.	Name of the Village	Survey No.	Area (In Sq. mtrs.)	1	Shirgaon	4, 42, 45, 341, 386	16,435	2	Naringi	11, 12, 17	51,322	3	Aagashi	54, 65, 66, 69, 70, 9, 10, 11	35,071	4	Gaas	411A-A	42,331	5	Aachole	21, 22, 23, 24, 30, 31	25,931	6	Aachole	104	1,319	7	Rajivall	124, 123,	32, 047	<p>STP reservations has been done by VVCMC. Where as reservation as Sr. No. 4 Gass &amp; Sr. No. 6 Achole has been converted in R- zone as per revised development plan.</p>
Sr. No.	Name of the Village	Survey No.	Area (In Sq. mtrs.)																															
1	Shirgaon	4, 42, 45, 341, 386	16,435																															
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		Gokhivare 55		
	8	Manikpur	148,149	1,028
	9	Malonde	69	12,335
	10	Umele	123	20,221
	11	Umelema an	52,53,54	49,300
	12	Juchendra	209,325	28,972
7	<p>Environment Audit was conducted with the help of M/s. Skylab Analytical Laboratory. M/s. Skylab Analytical Laboratory is engaged in providing services for chemical, biological, physical analysis and testing of various parameters as per relevant standards like National Ambient Air Quality Monitoring Standard (NAAQMS), Environment Protection Act, 1986, Water Act, Maharashtra Pollution Control Board (MPCB), Central Pollution Control Board (CPCB), Factories Act, OHSAS standards etc. The Environment Status Report mentions that the samples of pollutants like Sulphur Dioxide, Nitrogen Dioxide, Amonia and various other samples were collected from different places to test the Air quality. The report also mentions thirty-two places from where Air samples were collected. However, there are no permanent Air Quality Monitoring Stations installed in the Municipal Corporation.</p>			<p>As per the recommendation of 15th Central Finance Commission, Vasai-Virar City Corporation has been included under Million Plus Cities in the state. FFC 2020 / Pr.No.56 / Nov-4 dated 28th October, 2020. For Air Quality. Rs.32 crore has been disbursed for Air Quality under National Clean Air Program through Government of Maharashtra to Urban Development Department and the funds have been received by Vasai-Virar City Corporation. For proper planning and program corporation appointed to M/S Tandon Urban Solutions Pvt.Ltd. (TUSPL) as technical advisor. The VVCMC got approval from Central Pollution Control Board (CPCB) for Clean Air Action Plan. The activities statement attached separately as annexure III.</p> <p>Activities -</p> <ol style="list-style-type: none"> <li>1. Procurement of Electric Vehicles.</li> <li>2. Pay &amp; Park facility.</li> <li>3. Miyavaki Garden</li> <li>4. Vacuum mechanical sweeping vehicles</li> <li>5. Construction of Water fountains.</li> <li>6. Installation of Wind Augmentation Purifying Unit (WAYU)</li> <li>7. Installation of Air Monitoring System.</li> </ol>

  
Jr. Engineer (Con.)  
VVCMC

  
Dy. Engineer, STP  
VVCMC

  
Executive Engineer  
VVCMC

  
City Engineer  
VVCMC

## Annexure I

Sr. NO.	Village	Owner	Capacity (KLD)	Capacity (MLD)
1	Bolinj	Deepak H. Thakur	400	0.400
2	More	M/s. Maner land development Co	500	0.500
			400	0.400
3	Achole	Deepak P. Shah	2567	2.567
4	Juchandra	Anil R. Gupta	1310	1.310
5	Chandansar	Rakeshkumar K. Wadhawan	700	0.700
6	Dongre	M/s. Evershine Developers	12900	12.900
7	Virar	Pramod C. Patil, Nattalla A. Tuscan, Mrs. Sharda B. Patil, Pradeep H. Patil & others through P.A. Hoder hemant R. Mhatre	1000	1.000
8	Bolinj	Deepak H. Thakur, Raj H. Thakur, Sagar P. Raut (P.A. Holder)	800	0.800
9	Bolinj	L.N. Agrawal & Others	535	0.535
10	Bolinj	L.N. Agrawal & Others	974	0.974
11	Bolinj	R.P. Agrawal & Others	641	0.641
12	Dongre	Rakeshkumar K. Wadhawan	650	0.650
13	Diwanman/Chulne	Rakeshkumar K. Wadhawan	Under Construction	
14	Bolinj	MHADA Phase - 1	3500	3.5
		MHADA Phase - 2	1500	1.5
<b>Total</b>			<b>28377.000</b>	<b>28.377</b>

Public toilet & community toilet	934375 lit.	0.93 MLD
Individual Toilets	1325875 lit.	1.33 MLD
<b>Total</b>	<b>2260250</b>	<b>2.26 MLD</b>

## Annexure II

SR. NO.	WHERE AS WITH COMPLIANCE
1	<p><b>WHEREAS</b>, the Maharashtra pollution control Board has issued directions of 21/07/2017 &amp; 25/10/2018 to your Corporation and directed to implement long term and short term measures for the treatment and disposal of sewage.</p> <p>Vasai-Virar City Municipal Corporation notified by Government in 2009. Vasai Virar City Municipal Corporation desire to provide Sewerage system to whole Municipal area and hence through consultant prepared a DPR in which city is divided in various 20 Zones and the DPR is submitted to Govt. for approval in Satellite city programme.</p> <p>The State Government sent a proposal to the Central Government under the scheme of UIDSST wherein the basic infrastructure is provided to selective Satellite Cities. In which out of 20 zones DPR for 7 zones DPR costing Rs. 557.68 Crores is submitted to Central Govt. under the recommendation of State Govt.</p> <p>Out of the total amount of Rs. 557.68 Crores DPR of Underground Sewerage System, CPHEEO Dept. of Central Govt has appraised an amount of Rs. 100.6517 Crores as first Phase for the work of Virar region (STP-1 and STP-2) under the scheme. However, the Ministry of Urban Development of Govt of India has sanctioned an amount of 66.22 Crores for Virar STP-2., for which work is completed and scheme is commissioned IN July 2017. .Revised DPR costing Rs 1237 crores is submitted to MMRDA through Govt. Of Maharashtra for approval on 17.4.2014 for balance 6 STP for which approval is awaited.</p> <p>Revised DPR costing Rs 1237 crores is submitted to MMRDA through Govt. Of Maharashtra for approval on 17.4.2014 for balance 6 STP for which approval is awaited. Time line for project is taken as 36 months from approval. In this way Corporation before issue of directions from MPCB in 2014 has taken measures for the treatment and disposal of sewage.</p> <p>In the sanctioned scheme of Rs. 66.22 Crores work of 40 Km Collection system and 30 MLD STP was proposed but for betterment VVCMC; through own funds constructed additional 25 Km collection system and constructed Inlet work for 52 MLD considering future demand. The balance additional work of collection system is in progress and likely to be completed by May 2019. In this way the VVCMC is taking utmost efforts for increasing coverage of Underground drainage.</p> <p>Under SAAP of year 2017-18. Rs. 170 crores is sanctioned Accordingly DPR of Nalasopara east area of zone 3 is prepared and submitted to MJP the nodal agency of Amrut, for approval. But due to diversion of funds to MMRDA project the work is not sanctioned by state Govt.</p> <p>VVCMC also desire reuse of treated effluent for the work of construction and washing accordingly as per the guide line DPR of tertiary treatment costing Rs 16 crores is prepared and is approved by General body and tenders for same are also invited. The VVCMC has made compulsory to the new property developers to construct their STP in their premises and it is obligatory for them to treat their sewage and reuse it for gardening and flushing purpose Accordingly, during passing of plan of developers at about 40 places 101 STP of 59 50 MLD capacity are proposed out of which work of 21 STP are completed and work of 48 STP is in progress.</p> <p>As per the Norms of CPHEEO the underground drainage system is to be provided to the areas having 135 LPCD water supplies. At present in VVCMC area water is supplied at the rate of 110 LPCD. In city areas and in village area; water supply scheme executed by Maharashtra Jeevan Pradhikaran is under commissioning stage. In such areas water supply is made through open well, bore well and by tankers thus</p>

in such areas drainage scheme will not be feasible as per CPHHEO norms at this stage. Hence in all such areas, public and private latrines are provided and the city is declared as ODF in 2018. Under the swatch Bharat programme with the help of Government support about 173 public latrines, 56 Community latrines and 10607 Indivisible latrines with SEPTIC TANKS are constructed in corporation area.

The VVCMC is form in July 2009 and after closing of octori / LBT only house tax remains main source of Income. Form this income major amount is spent on basic amenities like health, Solid waste management and water supply department. Beside that other expenditure on development of Infrastructure are made. In such situation it becomes very difficult to execute such big projects from own funds. However VVCMC has executed projects of 100 MLD Water Supply, Virar Underground drainage scheme and Solid waste Management. During the short period of corporation.

VVCMC has appointed NNEERI and IIT for study of nalla and flood findings in VVCMC area and accordingly the committee has submitted the preliminary report and work of nalla cleaning is already started without disturbing shape /structure of nallah.

Financial closer is one of the most important factors in execution of such big project and without Government support it will not be possible for ULB to execute the project from their own funds. And hence VVCMC is not able to implement the project, hence it is requested that MPCB should help VVCMC in availing approvals and financial support for execution of sewage projects.

**AND WHEREAS**, the Board has issued directions vide letter dated 35/10/2018 to your Corporation, wherein, you were directed to provide adequate Sewage Treatment Plant and to achieve the consented standards / prescribed by the Ministry of Environment. Forest & Climate change, Government of India and implement short term & long term measures for the treatment of sewage and restrict the untreated / partially treated sewage reaching to the river.

Revised DPR costing Rs 1237 crores submitted to MMRDA through Govt. Of Maharashtra for approval on 17.4.2014 for balance 6 STP for which approval is awaited. The disposal of treated sewage of these plants is not proposed in any nearby perennial river.

As stated above and as suggested by MERI for Pelhar river Natural and cost effective waste water technology like Phytorid-STP will be implemented for which action plan is prepared and submitted to MPCB.

**AND WHEREAS**, it has been observed that your corporation is generation sewage to the tune of 105 MLD and no sewage is treated or partially treated and 105 MLD of the sewage is discharging into the Pelhar River without treatment.

The present population of city is 19 lakhs. Vasai Virar Sub region of MMR has an area of 380 sq. km. As per the Norms of CPHHEO the underground drainage system is to be provided to the areas having 135 LPCD water supplies. At present in VVCMC area water is supplied at the rate of 110 LPCD. In city areas and in village area; water supply scheme executed by Maharashtra Jeevan Pradhikaran is under commissioning stage.

About 16 MLD of sewage is treated in Boling STP 2 and for other areas sewage is treated in septic tanks and after that treated effluent is let out in nearby nallas which ultimately goes to nearby creek and not to Pelhar River.

Pelhar is part of city and till it is village area and from MERI report only about 0.89 MLD of sewage water is let out in un perennial / Seasonal Pelhar river and when the river is un perennial no water flow in river and hence no question of Pollution of water remain. And hence say of total 105 MLD of the sewage is discharging into the Pelhar River without treatment seen contradictory.

**NOW THEREFORE**, in exercise of the powers conferred upon me under Section 33A of the water (Prevention & Control of Pollution) Act, 1974, you are hereby directed to earmark an amount of Rs. 10.50 lakh per day (i.e. one paise /per ltr.) towards the cost of remediation/ pollution control and deposit the said amount in a separate account to be operated by the Municipal Commissioner for remediation / pollution control in consultation with the Board within a period of 7 days from the date of receipt of these directions, failing which the Board will have no option than to initiate appropriate legal action against your Corporation, which please note.

As stated above Pelhar is part of city and till it is village area and from MERI report only about 0.89 MLD of sewage water is let out in un perennial / Seasonal Pelhar river and when the river is un perennial no water flow in river and hence no question of Pollution of water remain during October to June. During July to October all the incoming Nalls and Pelhar river remain flooded, The sopera creek up to Golani naka remain flooded due to high tight and hence there is automatic dilution of sewage water meeting river flow.

As stated above it is revealed that the VVCMC is taking utmost efforts for increasing coverage and implementing of underground drainage project and avoiding river water pollution hence VVCMC may not be treated as Polluter. VVCMC in budget of this year already made provision for Underground project of zone 3 Nalasopara east. However considering the sewage flow in Pelhar river and as directed the proposal of opening of separate account for remediation/ pollution control will be initiated shortly with due approvals from concerns Authorities.

2 The MERI Nasik has carried out the study of Pelhar River and some points are clarified as below.

1. Pelhar River originates from Pelhar Dam and is basically not perennial river it is a seasonal river. Total length of Pelhar River from Pelhar dam to Sopara creek is 10 Km. Pelhar River water is not used for any purpose including drinking, bathing, washing and recreational purpose.

Being Pelhar is a seasonal river there is no water in river after rainy season. Pelhar river meet creek at Golani naka. Sopara creek is far away from Golani naka. The capacity of Pelhar Dam is about 4000 ML and daily about 10 ML of water is lifted from Pelhar dam and same is treated in Pelhar water treatment plant regularly and supplied to area through distribution system.

2. Vasai Virar City Municipal Corporation has not provided any sewage collection system and STPs in the area on the Bank of Pelhar River. Sewage generated from the cities or villages along the river has been discharged into the river causing river pollution.

Basically Major part of city Vasai Virar is situated on the bank of Vasai creek and not on the bank of Pelhar river.. Pelhar river is flowing from the part of city and sewage from all area is not discharged in Pelhar river. In the MERI study report it is clearly mentioned that 0.89 MLD of sewage is let out as under in dry /un perennial river and when the river remains un perennial for about 8 months no question of Pollution of river water remains.

Sr. No.	Location	Name of the drain	Discharge
1.	Nallah near soparaphata, opp. "Decathlon, NH-8, Vasai	SoparaNallah	0.57MLD
2.	Near Agarwal Naka, behind Secto Chemical, Sativali Road, Vasai (E)	TungarNallah, Sativali, Vasai (E)	0.2 MLD
3.	Golani Naka Nallah, 30 Dewan and Shah Udyog Nagar, Vasai	WallyNallah, Vasai East, Vasai	0.12 MLD
		TOTAL	0.89 MLD

The MERI has also carried out water quality report in Pelhar River which is as under.

Sr. No.	Major Drain	BOD (mg/L)	COD (mg/L)
1	WalivNallah, Vasal East	98.6	264.0
2	Tungar Nallah, sativall, Vasal (E)	28.6	102.6
3	SoparaNallah	78	221.3

As per Indian standard the BOD of untreated Domestic sewage is between 100 to 400 and COD is between 200 to 700, looking towards the MERI report the BOD and COD of untreated sewage from incoming nallas of Pelhar River is very less than the average Indian standard of domestic untreated sewage..

As stated above and as suggested by MERI Natural and cost effective waste water technology like Phytoid-STP will be implemented for which action plan is prepared and submitted to MPCB The VCMC has constructed underground drainage scheme for Virar city.

3. MERI has also suggested to construct Common toilets in all areas to be covered. Stop open defecation and awareness program should be conducted in these areas Under the swatch Bharat programme with the help of Government support about 173 public latrines, 56 Community latrines and 10607 Indivisible latrines with SEPTIC TANKS are constructed in corporation area. and the city is declared as ODF in 2018.

The VCMC has made compulsory to the new property developers to construct their STP in their premises and it is obligatory for them to treat their sewage and reuse it for gardening and flushing purpose Accordingly, during passing of plan of developers at about 40 places 101 STP of 59 50 MLD capacity are proposed out of which work of 21 STP are completed and work of 46 STP is in progress.

In this way it is revealed that the VCMC is taking utmost efforts for increasing coverage and implementing of underground drainage project and avoiding river water pollution hence VCMC may not be treated as Polluter.

**AND WHEREAS**, Polluter Pays Principle is laid down by the Hon'ble NGT in its Order dated 13/07/2017 in Original Application No. 200/2014 filed by M.C. Mehta v/s Union of India.

As stated above it is revealed that the VCMC is taking utmost efforts for increasing coverage and implementing of underground drainage project and avoiding river water pollution hence VCMC may not be treated as Polluter.

**AND WHEREAS**, the Hon'ble NGT in its order dated 19/12/2018 in Original Application No. 727/2018 in the News item dated 17/09/2018 in The Hindu authorized by Shri Jacob Koshy under the heading More River Stretches are now critically polluted"/ directed to each state is payable compensation for damage to the environment at the rate of Rs one crore per month for each of the Priority -I and Priority - II , Rs. 50 Lakhs per month for stretches in Priority. III and Rs. 25 Laksh per month each for Priority IV and Priority -V stretches.

As stated above it is revealed that the VCMC is taking utmost efforts for increasing coverage and implementing of underground drainage project and avoiding river water pollution hence VCMC may not be treated as Polluter.

**AND WHEREAS**, the Hon'ble National Green Tribunal, Principal Bench, New Delhi in the Original Application No. 1038/2018 - in the matter of News Item published in "The Asian Age" authored by Sanjay Kaw titled "CPCB to rank industrial Units on Pollution levels" has passed an order dated 13/12/2018 and directed the SPCBs / Committees and CPCB to take coercive measures including recovery of compensation for the damage to the environment on "Polluters Pays" principle as well as also to direct taking of such precautionary measures as may be necessary on the basis of Precautionary Principle.

As stated above it is revealed that the VCMC is taking utmost efforts for increasing coverage and implementing of underground drainage project and avoiding river water pollution hence VCMC may not be treated as Polluter.

	<p><b>AND WHEREAS</b>, the Hon'ble Green Tribunal in the hearing through video conferencing on 07/01/2019 directed to take immediate action on polluting establishment on the basis of Polluters Pay Principle</p> <p>As stated above It is revealed that the VVCMC is taking utmost efforts for increasing coverage and implementing of underground drainage project and hence it is requested that VVCMC may not be treated as Polluter.</p> <p><b>AND WHEREAS</b>, it has been observed that you have failed to comply with the directions issued by the Board from time to time and also not taken effective steps to implement the Action Plan within the stipulated period.</p> <p>As stated above it is revealed that the VVCMC is taking utmost efforts for increasing coverage and implementing of underground drainage project and avoiding river water pollution hence VVCMC may not be treated as Polluter.</p>
3	<p><b>AND WHEREAS</b>, you were also directed to maintain wholesomeness of the river water to achieve the standards of bathing purpose and stop and stop all the discharges of untreated/ partially treated sewage into the river.</p> <p>Pelhar dam is situated and Pelhar river is originated from dam and hence during rainy season all rain water is first stored in dam and in rainy season only from July the dam over flow starts and river become perennial till October after that overflow of dam stopped and the again river become Dry/ un perennial and hence no question of River water pollution remain. The water in the dam is used for drinking purpose since 1973 and hence this circle of water flow is Just like nallas since 1973.</p> <p>The sewage generated from Pelhar village and Industries is flowing through the River. And as per the Government guidelines the treated Industrial or domestic sewage cannot be maintained for bathing standard, However it can be reused for other purpose like washing and cleaning.</p> <p>As stated above STP No 14 is proposed for Zone 14 The capacity of plant is designed as 36 MLD. Under this zone the stretch of river Pelhar is covered. However as suggested by MERI Natural and cost effective waste water technology like Phytoid-STP will be implemented for which action plan is prepared as per the guide line of MERI and submitted to MPCB.</p>
4	<p><b>AND WHEREAS</b>, the Central Pollution Control Board has organized a workshop for Restoration of Polluted River Stretches on 08/01/2018 And Whereas, as decided in the said workshop, a committee has been constituted vide office order dtd. 10/04/2018 for "Preparation of Action plan for Execution, Monitoring and Development of Requisite Infrastructure for Management of Industrial Effluent as well as for Development of Requisite Infrastructure for Management of Industrial Effluent as well as for Restoration of Polluted River stretches" And Whereas, the first Meeting of the aforesaid Committee was held on 02/11/2018.</p> <p>Revised DPR costing Rs 1237 crores submitted to MMRDA through Govt. Of Maharashtra for approval on 17.4.2014 for balance 6 STP for which approval is awaited. Time line for project is taken as 36 months from approval. In this way Corporation before issue of directions from MPCB in 2014 has taken measures for the treatment and disposal of sewage. STP No 14 is proposed under which the stretch of river Pelhar is covered.</p> <p>As per MERI report Industries located in the catchment of Pelhar River are small scale industries like Engineering, Plastic Molding, Rubber Molding, Sari Printing, Assembling of Electrical &amp; Electronics components, Electroplating, Corrugated Box making etc. The Chemical Oxygen Demand (COD) values ranged between 12-28.0 mg/l indicating low level of industrial pollution.</p> <p>Remaining catchment of Pelhar River is Residential area and area covered by Cattle shades. The Survey of Cattle shade is carried out and it is seen that there are about</p>

	<p>18 big Cattle shades along Pelhar River and about 241 MT of Dung and 0.45 MLD of Sewage is generated through Cattle shades. About 90 % of dung is treated by the owners by the process of drying. Big drying beds are provided along the cattle shades. Which helps in avoiding of contamination of Pelhar River and Dried dung is utilized as Organic fertilizer</p>
	<p><b>AND WHEREAS</b>, the Hon'ble National Green Tribunal vide order dated 20/09/2018 directed all States and Union Territories to prepare action plan within two months for bringing all the polluted river stretches to be fit at least for bathing purposes (i.e. BOD&lt;3 mg/L and FC&lt; 500 MPN/100 ml) within six months from the date of finalization of the action plans.</p> <p>The DPR of providing Sewerage System in the Vasai-Virar town has been framed in accordance with the guidelines of the Manual on Sewerage &amp; Sewage Treatment While floating tenders, options have to be kept open for all the available technologies for the STP meeting the prescribed CPCB/SPCB norms of effluent disposal.</p>
5	<p><b>AND WHEREAS</b> the Hon'ble Supreme Court of India had imposed the responsibility of damage/ restoration cost on the occupier, which is well - known principle laid down polluter Pay Principle vide its Judgment did 28/08/1996 in the Writ Petition (c) No. 914/1991 filed by Vellore Citizens Welfare Forum V/s Union of India and Ors.</p>

मुख्य कार्यालय विरार  
विरार (पूर्व),  
जा. वसई, जि. पालघर, पिन ४०१ ३०५.



दूरधनी : ०२५०-२५२५२०१/०२/०३/०४/०५/०६,  
०२५०-२५२५१०  
ई-मेल vasalvirarcorporation@yahoo.com

जा.क्र. वसई/नगर/२०१/२०२१/२०२२  
दिनांक :- १९/०१/२०२१

प्रति,

मा. आशिष पाटील  
अतिरिक्त आयुक्त,  
वसई विरार शहर महानगरपालिका,  
मुख्यालय, विरार पूर्व

**विषय:- मीजे-गास स.नं-४११/A-A वरील मलजल प्रक्रिया केंद्र (Sewage Treatment Plant) (Site No.४०२) वरील आरक्षण बगळण्याबाबत.**

महोदय,

उपरोक्त विषयान्वये आपणांस कळविण्यांत येते की, माघ मीजे-गास येथील स.नं-४११/A-A च्या जागेवरील मलजल प्रक्रिया केंद्र (Sewage Treatment Plant) (Site No.४०२)चे आरक्षण EP-२०१ नुसार बगळण्यात आले आहे. सदर जागेचा भाग नकाशा मी प्रत तसेच EP-१०१ च्या अधिसूचनेची प्रत सोबत जोडून आहे. अधिसूचने च्या अनुषंगाने पुढील कार्यवाही करण्यास हरकत नाही.



  
उपसंचालक  
नगररचना विभाग,  
वसई-विरार शहर महानगरपालिका.

70147 6

SR. NO	VILLAGE	SURVEY NO.	AREA IN SQ.MTRS.	SITE NO	CRZ-2019	WETLAND	OTHER REMARKS
1	SHIRGAON	4,42,45,341, 386	16,435	16	AFFECTED	PARTLY AFFECTED	
2	NARINGI	11,12,17	51,322	205	PARTLY AFFECTED	PARTLY AFFECTED	S.NO 17, AREA=8451.69 SQ.MTRS AREA GIVEN FOR POSSESSION BY COLLECTOR
3	AGASHI	54,65,66,69, 70,9,10,11	35,071	-	-	-	STP RESERVATION NOT FOUND ON DP
4	GAAS	411A-A	42,331	402	-	-	SITE NO 402 IS DELETED AS PER EP- 101
5	ACHOLE	21,22,23,24, 30,31	25,931	450	NOT AFFECTED	PARTLY AFFECTED	
6	ACHOLE	104	1,319	-	-	-	STP RESERVATION NOT FOUND ON DP
7	RAIVALI	124,123, GOKHIWARE 55	32,847	547	PARTLY AFFECTED	NOT AFFECTED	
8	MANIKPUR	148,149	1,28	580	AFFECTED	PARTLY AFFECTED	
9	MALONDE	69	12,335	684	AFFECTED	NOT AFFECTED	S.NO 69 PART, AREA=12359.76 SQ.MTRS AREA GIVEN FOR POSSESSION BY COLLECTOR
10	UMELE	123	20,221	733	AFFECTED	AFFECTED	
11	UMELEMAAN	52,53,54	49,300	777	PARTLY AFFECTED	AFFECTED	
12	JUCHANDRA	209,235	28,972	829	AFFECTED	AFFECTED	



मुख्य कार्यालय, विरार  
विरार (पूर्व),  
जि.पालघर, पिन- ४०१ ३०५.



दुरध्वनी : ०२५०-२५२५१०१/०२/०३/०४/०५/०६  
फॅक्स : ०२५०-२५२५१०७  
ई-मेल : vasavirarcorporation@yahoo.com  
जा.क्र. : वविशम/अति.आयुक्त(उ.)/८०/२१-२२  
दिनांक : ०६/१०/२०२१

प्रति,

मा. आयुक्त साहेब,

वसई-विरार शहर महानगरपालिका

विषय :- STP साठी आरक्षित जागेवरील अतिक्रमणे/अनधिकृत बांधकामाची माहिती मिळणेबाबत.

संदर्भ :- मा. राष्ट्रीय हरीत लवाद, नवी दिल्ली येथे दाखल याचिका क्र. ३२/२०२१ मधील आदेश दि. १२/०७/२०२१.

उपरोक्त विषयास व संदर्भिय पत्रान्वये STP साठी आरक्षित असलेल्या जागेवर झालेले अतिक्रमण व अनधिकृत बांधकाम या बाबतची माहिती प्रभाग निहाय अहवाल या कार्यालयाकडे प्राप्त झाले आहेत ते सोबत जोडून आपणांकडे सादर करण्यात येत आहे.

(आशिष पाटील)

अतिरिक्त आयुक्त

वसई - विरार शहर महानगरपालिका

प्रत :-

- १) उप-आयुक्त (प्रशा.), वसई-विरार शहर महानगरपालिका
- २) शहर अभियंता, वसई-विरार शहर महानगरपालिका
- ३) कार्यकारी अभियंता, वसई-विरार शहर महानगरपालिका

## Reservation Land For Sewage Treatment Plant

Sr.No	Reservation No.	Reservation	Name Of the Village	Ward Office	Survey No	Area (in sq. Mtrs.)	Land Government/ Private	Handover Yes/No	Encroachment/Vacant
1	16	Sewage Treatment Plant (STP)	Shirgaon	C	4, 42, 45, 341, 386	16435	Private	No	Vacant
2	205		Narangi	A	11, 12, 17	51322	Government	Yes	Vacant
3	247		Tembl	SPA	54, 65, 66, 69, 70, 9, 10, 11	35071	Private	No	Vacant
4	450		Achole	D	21, 22, 23, 24, 30, 31	25931	Private	No	Encroachment
5	547		Gokhivare/Rajavali	G	124, 123, Gokhivare 55	32847	Private	No	Survey No. 124,123 Encroachment Survey No. 55 Vacant
6	280		Manikpur	H	148, 149	16028	Private	No	Vacant
7	684		Malonde	I	69	12335	Government	Yes	Encroachment
8	733		Umela	H	123	20221	Private	No	Vacant
9	777		Umelman	H	52, 53, 54	49300	Private	No	Vacant
10	829		Juchandra	G	209	28972	Private	No	Encroachment

अभि आकृत  
बसई विंगार शहर महानगरपालिका

# District Environment Plan



Prepared By



Environment Department, Government of Maharashtra



Maharashtra Pollution Control Board

## Palghar

## 1.0 Preamble

Hon'ble National Green Tribunal vide order dated 26/09/2019 in O.A. No. 360 of 2018 filed by Shree Nath Sharma Vs Union of India and Others directed that CPCB shall facilitate the District Magistrates in preparation of District Environmental Plan by placing Model plan on its website. This model plan may be adopted as per local requirements by all Districts under supervision of District Magistrate.

The said Order also directs that Department of Environment in respective States / UTs should collect district plans to prepare State Environment Plan, which shall be monitored by respective Chief Secretaries of State/UT by 15/12/2019.

Based on State Environmental plans, CPCB and Ministry of Environment, Forest & Climate Change shall prepare National Environmental Plan, under the supervision of Secretary, MoEF&CC and Chairman, CPCB by 31/01/2020. The National Action Plan needs to be submitted before Hon'ble NGT 15/02/2020.

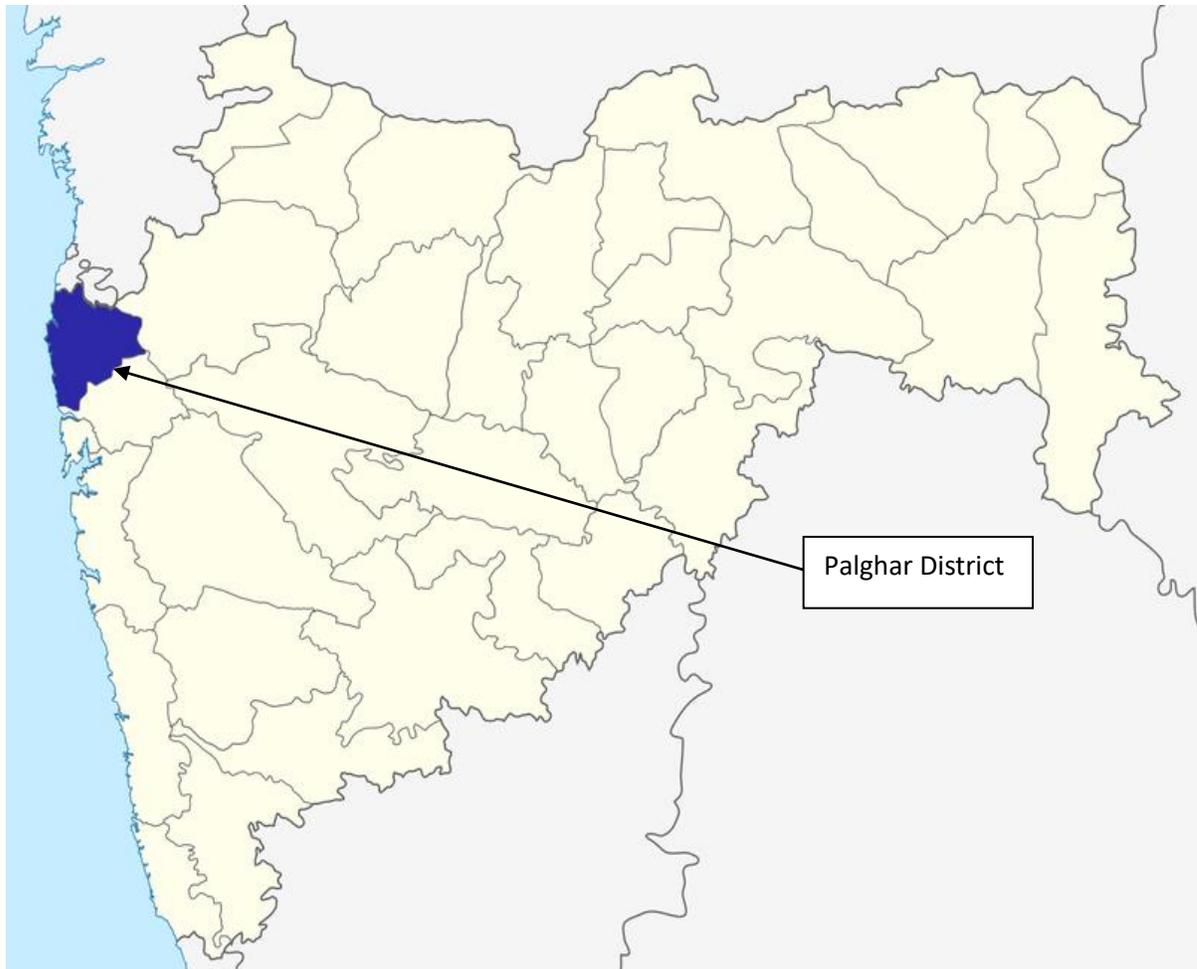
In compliance to above directions, CPCB has prepared a model District Environment Plan (DEP) that covers following thematic areas;

In compliance to above directions and as per the model DEP prepared by CPCB, Environment Action plan for Palghar District is prepared

## 2.0 Introduction

Palghar district is an administrative district in the state of Maharashtra in India. The district headquarters are located at Palghar. The district occupies an area of 9558km<sup>2</sup> and has a population of 29, 90,116 as of 2011 census. Figure 1.0 gives a picture of Palghar district in State of Maharashtra. Palghar district is located in the central part of Maharashtra in Konkan region. The district lies between 19° 69' North Latitudes and 72° 77' East Longitudes.

The Godavari River forms the boundary of the district throughout the northern border. In 2011 census, the district has 8 talukas, 1008 villages, 3818 sub villages, 477 gram panchayat.



**Figure 1.0 Location of Palghar District in Maharashtra state**

### **3.0 Waste Management Plan**

Nearly all incidents generate waste, debris and materials. While the amount of waste varies between incidents, the generated waste is often greater than the amount of waste many communities handle each year. With the increasing population, management of Solid Waste in the country has emerged as a severe problem not only because of the environmental and aesthetic concerns but also because of the sheer quantities generated every day. It encompasses the legal and regulatory framework that relates to waste management encircling guidance on recycling.

Solid waste management is among the basic essential services provided by municipal authorities in the country to keep cities clean. In Palghar district primary sources of solid waste are local households, commercial establishments, hospitals, hotels, restaurants, and markets. Local Bodies are responsible for collection, storage, segregation, transportation and disposal of all solid waste generated in the city. There are 4 Urban Local Bodies [ULB's] in Palghar district. Table 1

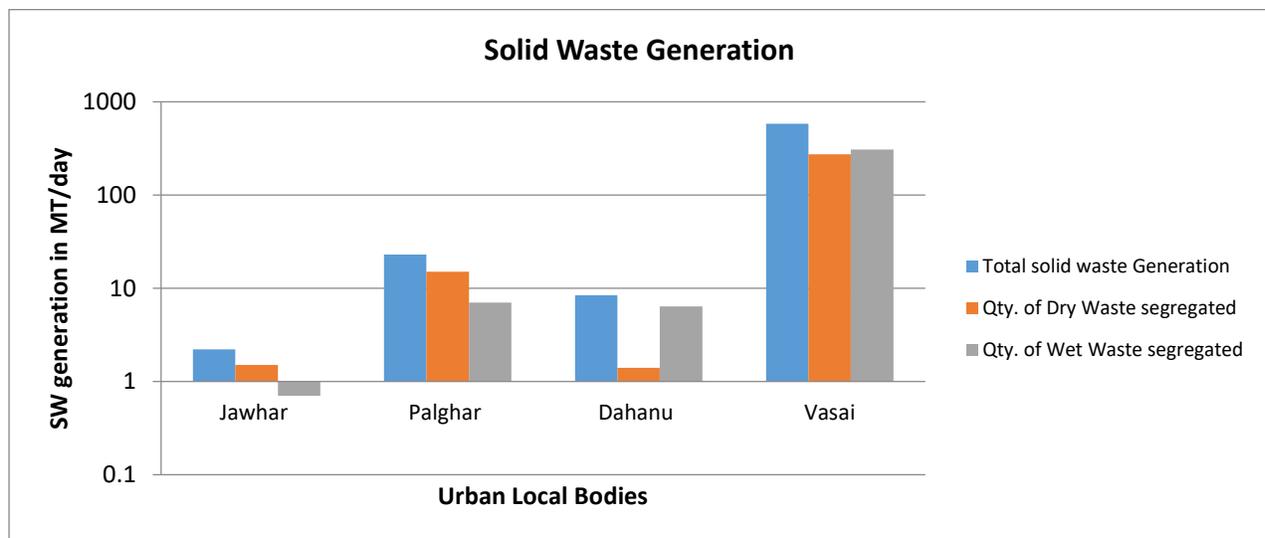
represents the list of ULB's along with population. Following section gives insight about waste management of Palghar district.

**Table 1 Palghar District Profile**

ULB1	Vasai-Virar City Municipal Council	1222390
ULB2	Palghar Municipal Council	68930
ULB3	Dahanu Municipal Council	50287
ULB4	Jawhar Municipal Council	12040

### 3.1 Quantification of Solid waste

Palghar District comprises of 4 Urban Local Bodies [ULB] namely Palghar Municipal Council, Vasai-Virar City Municipal Council, Dahanu Municipal Council, Jawhar Municipal Council. Vasai-Virar City Municipal Council comprise of higher population [i.e. 12,22,390] while Jawhar Municipal Council depicts lower population of the district [i.e. 12,040].

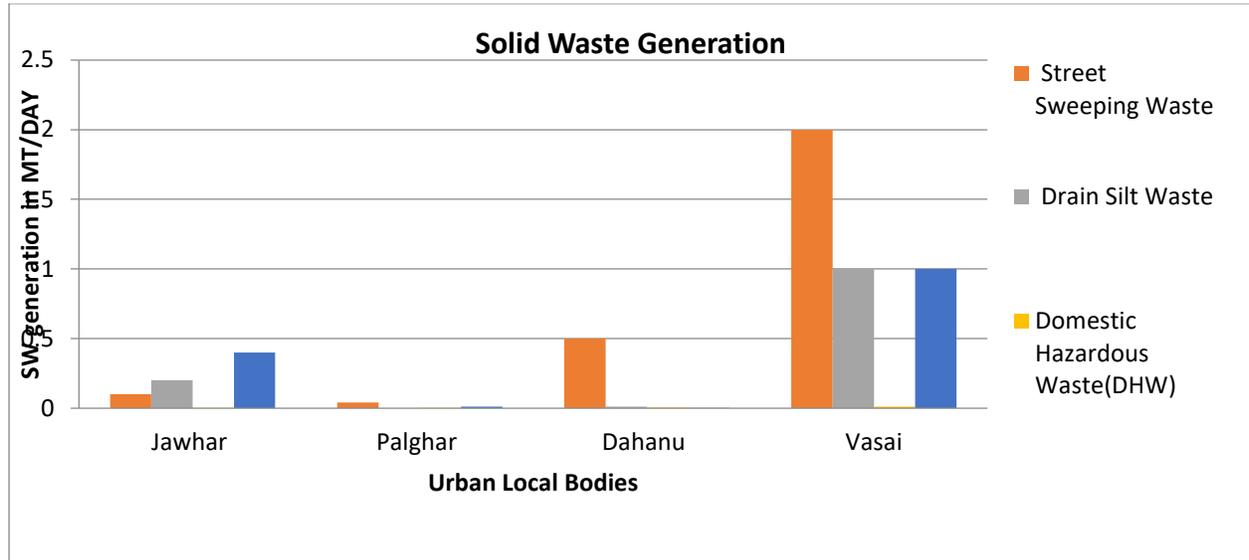


**Figure 1.1 Domestic Solid Waste Generation**

Fig 1.1 indicates the total solid waste generation of 4 ULB's of Palghar district further categorizing it into dry and wet waste of each ULB.

- Palghar District constitutes of Total 4 ULB's. Total Solid Waste generated from Palghar District is 613.6 MT/D out of which Vasai Municipal Council being the ULB with largest population [12,22,390] generates 613.6 MT/D waste thus contributing to major portion of waste. Wherein, Dry waste is 290.9 MT/D and Wet waste is 321.05 MT/D segregated every day

- In accordance with Fig 1.1 the maximum Solid waste generating ULB is Vasai- Virar City Municipal Council at the tune of 580 MTD out of which Dry and Wet waste is 273MTD & 3307MTD as compared to other ULBs. Likewise, Minimum Solid Waste generating ULB is Jawhar Municipal Council at tune of 2.2 MTD out of which the dry waste is 1.5MTD & Wet waste is 0.7MTD respectively.



**Figure 1.2 Other waste Generation**

Fig 1.2 depicts the other solid waste generation of 4 ULB's of Palghar district categorizing it into Street Sweeping, Drain silt, Domestic Hazardous Waste, Horticulture, sanitary waste, etc.

In line, with Fig 1.2 it can be seen that,

- Street Sweeping Waste** : Total Street sweep generation is 2.64MT/D wherein,
  - ✓ Maximum generation is at Vasai- Virar city Municipal Council [i.e, 2.0MT/D]
  - ✓ Minimum generation is at Palghar [i.e, 0.04MT/D]
- Drain Silt** : Total Drain Slit waste generation is 1.21MT/D wherein,
  - ✓ Maximum generate is at Vasai- Virar city Municipal Council [i.e, 1.0MT/D]
  - ✓ Minimum generation/No generation is at Dahanu/ Palghar [i.e, 0.01MT/D]
- Domestic Hazardous Waste (DHW)** : Total DHW generation is 0.018MT/D wherein,
  - ✓ Maximum generation is at Vasai- Virar city Municipal Council [i.e, 0.01MT/D]
  - ✓ Minimum generation is at Palghar Municipal Council [i.e, 0.0005MT/D]
- Other Waste (Horticulture, sanitary waste, etc.)** : Total Other waste generation is 1.413MT/D wherein,
  - ✓ Maximum generation is at Vasai- Virar city Municipal Council [i.e, 1.0MT/D]

- ✓ Minimum generation is at Dahanu, Municipal Council followed by Palghar [i.e, 0.002MT/D]

### 3.1.1 Collection and Transport

In line with the total Solid waste generated, only 3 ULB Palghar Municipal Council, Vasai-Virar city Municipal Council, Jawhar Municipal Council is provided with Dumpsite facility followed by 2 nos. of Sanitary Landfills. Palghar district comprises of 138 wards. Qty. of Solid Waste stored at all the ULBs i.e Jawhar Municipal Council, Palghar Municipal Council, Vasai-Virar city Municipal Council dumpsite is 3609.80MTD/ 70MTD/ 500000MTD. There are in total 25 nos. of Bulk Waste generations in Palghar district comprises of 4 ULB's providing 1419 nos. of onsite facility for wet waste.

Of all 4 ULB's have 100 percent facility of door to door collection of Solid waste. Palghar district has not initiated any Mechanical Road Sweeping facility among any of its ULB's rather district has 100 percent Manual Road sweeping facility. The district has 100 percent segregated waste transport for 4 ULB's. Segregated wet waste is further utilized for composting. Despite of 100 percent Segregation of the waste generated, 3 ULB's are performing the 100% Compositing operation while the remaining ULB Vasai-Virar city Municipal Council is performing 50% Compositing operation.

MRF is not introduced in 2 ULB's namely Palghar Municipal Council, Dahanu Municipal Council, while the other 2 ULB's are having MR facility.

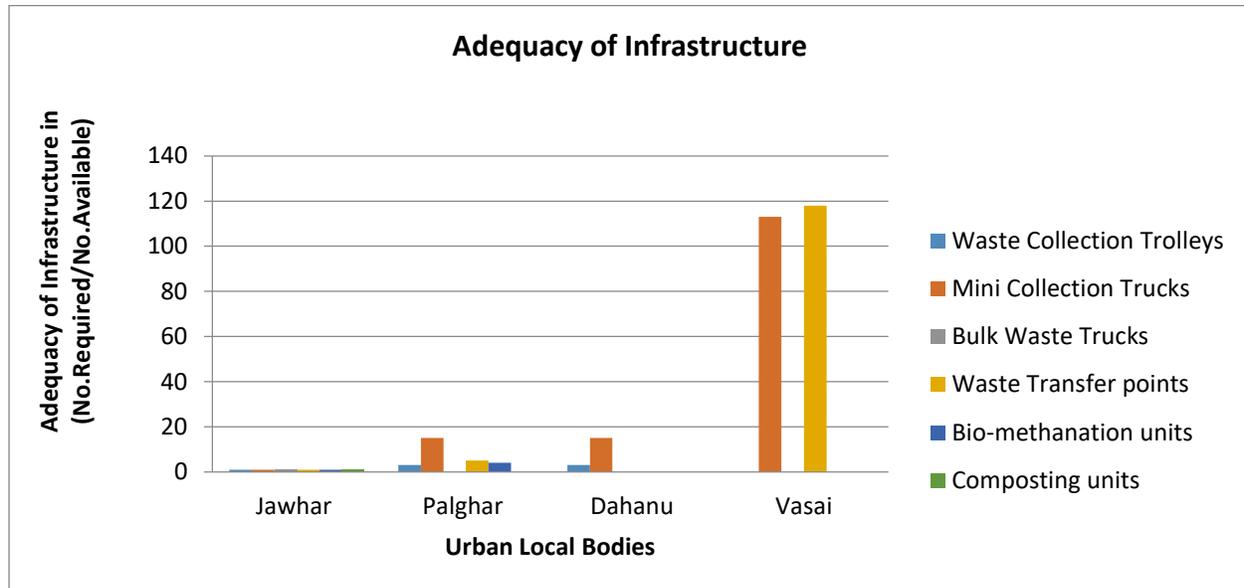
Further, only Vasai-Virar city Municipal Council & Jawhar Municipal Council, are using 10% and 80% Sanitary Landfill facility to safe decomposition of the solid waste collected.

Some of the ULB's have initiated authorization of waste pickers, and issuance of ID card of personnel's involved in management of solid waste.

Palghar District has not initiated with Reclamation of old dump site and Linkage with waste to energy Boilers/Cement plants is only initiated by Dahanu Municipal Council which is collected by Nepra resource pvt.ltd., Ahmadabad, Gujrat state .

### 3.1.2 Adequacy of infrastructure

Availability of infrastructure to handle the waste generated from the Palghar district is presented in Fig 1.3



**Figure 1.3 Adequacy of Infrastructure**

Above graph depicts that Palghar district have many (6 No.s) trolley or (144 No.s) mini truck solid waste collection facility for all of it's ULB's. Among all the 4 ULB's 2 ULB's have the 100% Segregated Transport system to collect the waste. Further District also provides 124 No.s of Bulk Waste Trucks but this facility is not initiated in Dahanu. Palghar District doesn't have any Bio-methanation units. District only have 2 Waste Transfer point i.e at Jawhar and Palghar.

There are in total 6 Composting units among 4 ULB's, maximum is at Palghar Municipal Council and Dhanau Municipal Council. It can be concluded that some of the ULB's in The Palghar district requires Refuse dry waste [RDF] facility.

Furthermore, it can be seen that ULB's requires other decomposition facilities like composting, windrow composting, home composting, Composting Pit in major Municipal Councils and other ULB's

Each ULB's in Palghar district ensure the implementation of applicable by-laws.

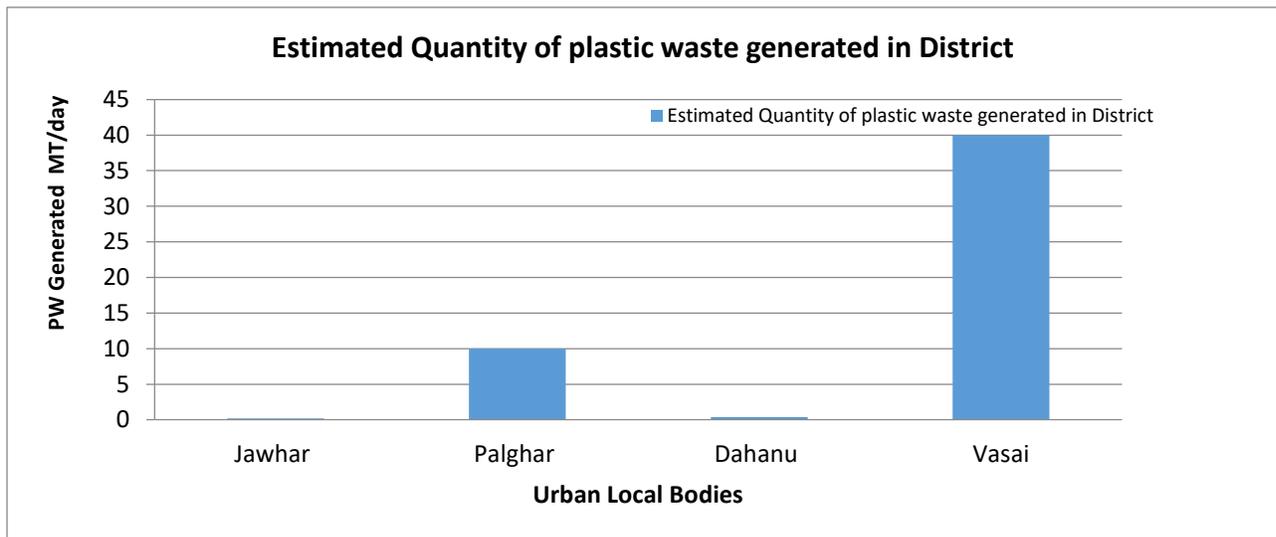
### 3.1.3 Financial allocation

The Total Capital Expenditure for all the 4 local bodies to carry out Solid Waste Management practise starting from Collection, Segregation, Transportation to respective facilities and

implementation of those facilities like Composting units, Material Recovery Facility, Sanitary landfills, etc. is INR. 147 Crore whereas the operational cost for the same INR. 312Crore

### 3.2 Plastic waste

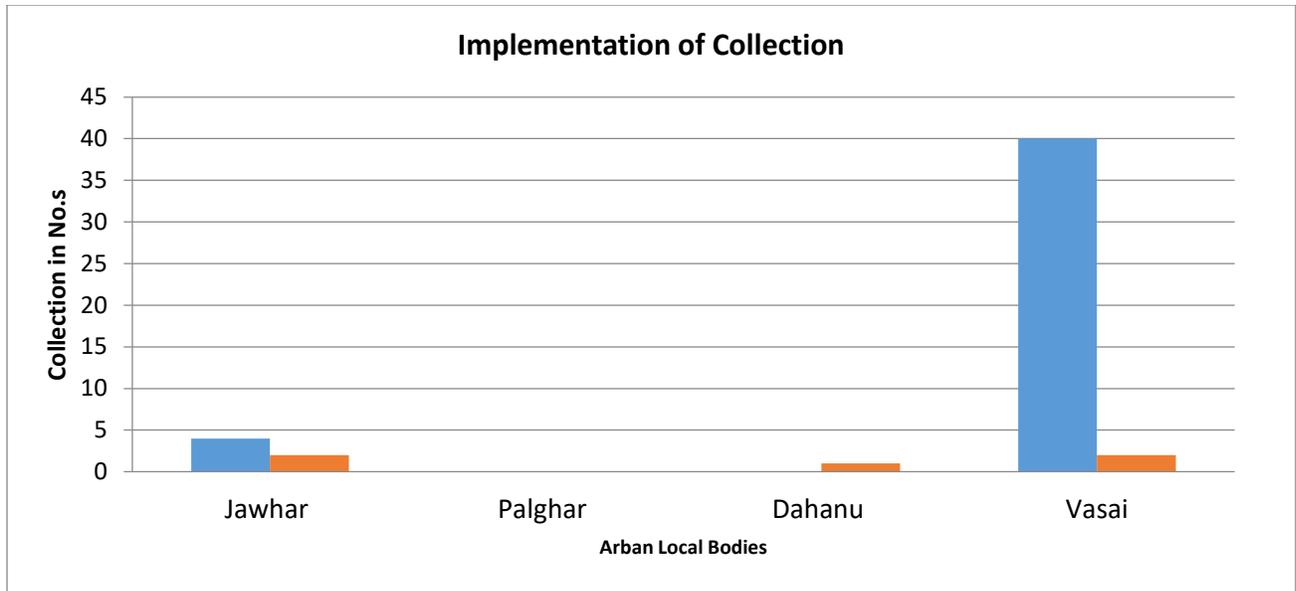
Plastics are integral part of society and have varied application. Palghar district generates 50.59MTD of Plastic waste from over 4 ULB's. Out of which Vasai- Virar City Municipal Council is the major generator of Plastic waste i.e, 40MTD followed by Palghar Municipal Council i.e 10MTD. All the ULB's have the 100% Door to Door collection facility. Estimated generation details from all local bodies are presented in below **Figure. 1.4**



**Figure 1.4 Estimated quantity of plastic waste generation**

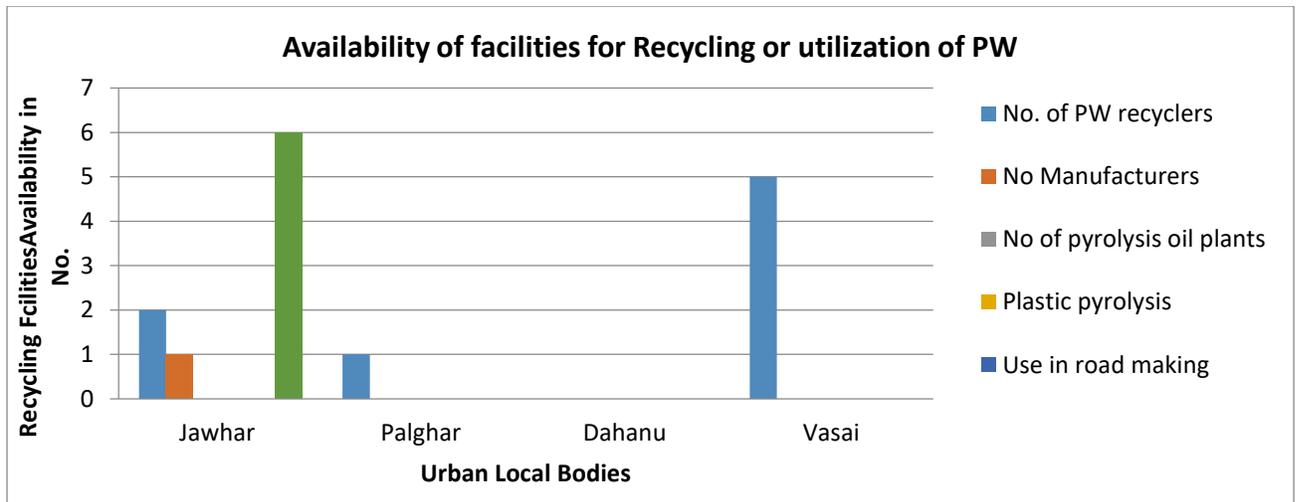
Segregation of waste is done at the tune of 80 – 100 percent for all ULB's and Partially 30% for Dahau. Jawhar Municipal Council followed by Vasai- Virar City Municipal Council has adopted Material Recovery Facility (MRF) to collect the Plastic waste. While, the MRF facility at Dahau Municipal Council is currently under Tender process and Palghar doesn't have MRF installed.

District has initiated Authorization of Plastic Waste personnel's in 44 nos. in various local bodies out of which Vasai\_Virar city is the major contributor to initiate the process of Authorization . Palghar District has 5 plastic waste collection centers. Graphical representation of the Plastic waste collection implementation is shown in below Fig 1.5



**Figure 1.5 Implementation of Collection**

In Palghar district it can be seen that, despite of door to door collection of PW and its 100 percent segregation 8 Plastic waste (PW) recycler is available. While district do not contribute in Plastic Pyrolysis nor any Plastic pyrolysis oil plants. Palghar district have only 1 Plastic manufacturers. While Local bodies in Palghar district doesn't uses its collected plastic waste in making roads. Availability of facilities for recycling or utilization of PW in Palghar district is represented in below Fig 1.6



**Figure 1.6 Availability of facilities for Recycling or utilization of PW**

Palghar District has implemented the PW Management Rules, 2016 in its 4 ULB's resulting in Sealing of units producing < 50-micron plastic, Prohibiting sale of carry bags < 50 micron followed by Ban on Carry bags and other single use plastics as notified by State Government.

On other hand, there are no producers associated with ULB's to produce Plastic nor any Infrastructure is supported by Producers / Brand owners to ULBs.

### **3.3 Construction and Demolition (C & D) waste Management.**

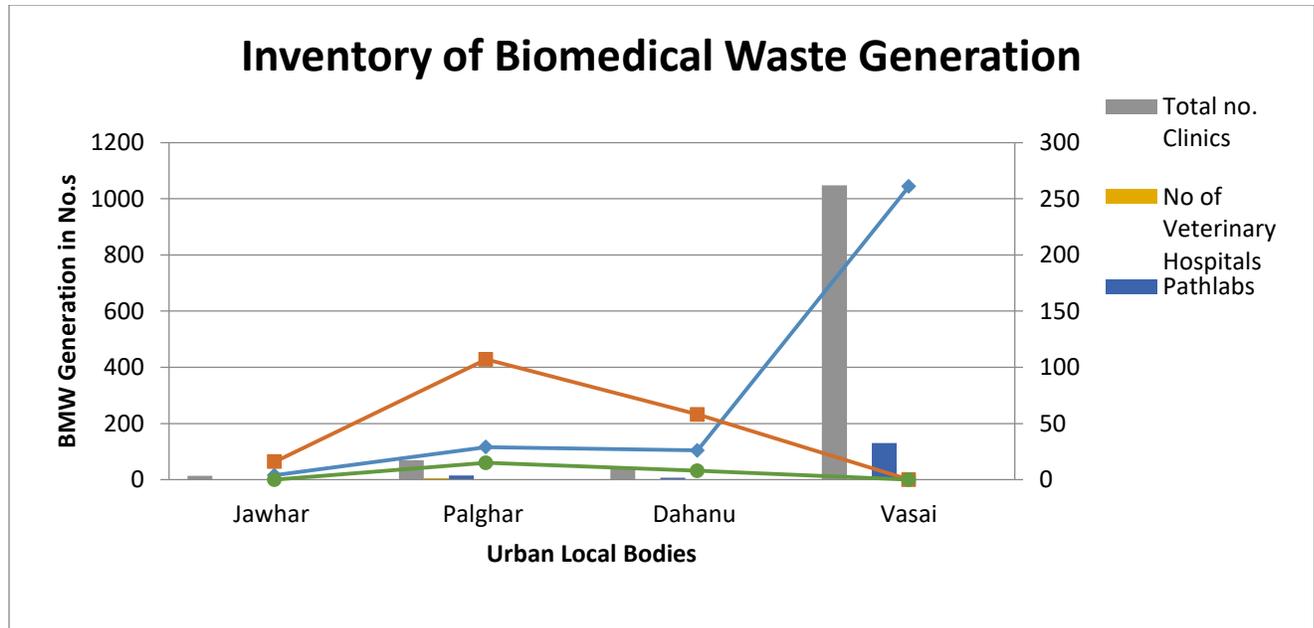
The Ministry of Environment, Forest and Climate Change notified the Construction & Demolition Waste Management Rules, 2016 on 29 March 2016. The rules are an initiative to effectively tackle the issues of pollution and waste management.

Total qty. of C & D waste from 4 ULB's in Palghar District is 365MT/D among with Palghar Municipal Council are the major contributor at tune of 365MT/D each. District has not Implement any scheme for permitting bulk waste generators. Issuance of Permissions by ULBs is not initiated in any of its local bodies.

It can be observed that, Palghar district has notified implementation of By-Laws for C&D Waste Management in any of its local bodies.

### **3.4 Biomedical Waste Management**

Bio-medical waste refers to any waste, which is generated during the diagnosis, treatment or immunisation of human beings or animals or research activities pertaining there to or in the production or testing of biological or in health camps,etc. Fig 1.7 shows the graphical representation of Inventory of Bio medical waste generation.



**Figure 1.7 Inventory of Biomedical Waste Generation**

The amount or the quantity of BMW generated by palghar district is 685 KG/D.

From graph It can be concluded that there are about 320 bedded hospitals in among all the 4 local bodies in Palghar district whereas, 181 nos. of non-bedded hospitals. There are in total 1172 nos. of clinics where maximum nos. are in Vasai- Virar city Municipal Council. Palghar district do have 15 nos. of Dental Clinics in its one Municipal councils followed by 155 Pathalogoy laboraroties . District do have any Veterinary Hospital, Blood Bank, Animal House, etc in Palghar Municipal Council while rest of the ULB's doesn't have any Veterinary Hospital, Blood Bank, Animal House, etc.

Authorization has been done for HCFs by SPCBs / PCCs in Palghar district with bedded HCFs 442 and non bedded HCFs 1265. District doesn't have any common Biomedical Waste Treatment and Disposal Facilities(CBMWTFs).They have their CBMWTFs only in Palghar. Palghar district doesnot have any Linkage with other CBMWTFs for disposal of Bio-medical waste.

Palghar has partial Barcode tracking system installed But Due to poor response by HCF its Not Working properly. Dahau Municipal Council shows BMW lifting by Touch N Glow Pvt.Ltd., Palghar. Rest of the ULBs doesn't how any daily BMW lifting by CBMWTFs

In Palghar District partial Hospitals don't hand over waste with proper segregation thus only 60% of the total waste is segregated.

### 3.5 Hazardous Waste Management

There is only 831 Hazardous Waste generating industries in Palghar District from where 30804.02 MT/Annum of Hazardous waste is generated of which Incinerable HW is 5668 MT/Annum and Landfillable HW is 25135 MT/Annum. Based on the type of waste it is further sent for treatment i.e either landfilling or Recyclable/Utilizable waste. As per standard norms each of these industries have displayed a board of Hazardous Waste generation in industry. Due to unavailability of Hazardous waste disposal site, the generated waste is sent to CHWTSDF of other district within state. There are 903 No.s of industries authorized by SPCBs/PCCs. Out of 903 industries only 837 industry is having Display Board of HW generation data in front of gate.

### 3.6 E-Waste Waste Management

It is observed that the district has total of 7 E-waste collection centers with its facility. Citizen of Jawhar, Dahau and Vasai- Virar city are able to deposit or provide E-Waste through Toll-free Numbers in the District while palghar doesn't have any such facility. The top class mobile companies have provided their collection centres from where the discarded mobiles are collected. There is E-waste recycler and the local bodies that have linked up for same with anyone. There is total of 8 no. of dismantler, recycler, producer in the district which are existing in the Jurisdiction of Sub-Regional Office. To create awareness among the people the District administration arranges District level Awareness Campaigns. Out of which there are 2 dismantler existing in Palghar district one is M/s. S. S. E-Waste Recyclers, Gatet No. 442, Village Usar, Kondla Road, Tal. Wada, Dist. Palghar 421312 with capacity 1500MT/D, another is M/s. Eco Layer E-Waste Recycling S. No. 11, H. No. 1/1, PT-8, S. K. Indl. Estate, Choudhary Compound, Vasai E, Palghar with capacity 110MT/D.

### 3.7 Action Plan

As per the above mentioned observation, it seems that almost all ULBs are handling solid waste generated as per the Municipal Solid waste Management Rules, however there are certain issues that needs to be addressed for 100% implementation of the rules as mentioned in Table 2

**Table 2 Action Plan for Solid Waste Management**

Sectors	Gaps	Action Points	Priority
<b>Domestic Solid Waste</b>			
Quantification	<ul style="list-style-type: none"> <li>▪ Methodology for solid waste quantification should be ascertained</li> <li>▪ Quantification based on Income group, culture affluence and technology to be considered</li> </ul>	<ul style="list-style-type: none"> <li>▪ Mechanism for graded weighing system either through intermediate transfer station or at the common receiving station to be created. Usually one weigh bridge at any treatment / disposal location required</li> <li>▪ Quadrate sampling methodology to be adopted in order to reduce quantity as well as quality</li> </ul>	Immediate
Collection System & Transport System	<ul style="list-style-type: none"> <li>▪ Some of the places, efficiency of the collection system is not up to the mark</li> <li>▪</li> </ul>	<ul style="list-style-type: none"> <li>▪ Ideally most proven method of SWM is 3 Tier System with door to door, community and transfer station approach</li> <li>▪ 100% efficiency to be achieved</li> <li>▪ Intermediate</li> </ul>	Short to Mid Term
Infrastructure	<ul style="list-style-type: none"> <li>▪ Mostly composting is the main treatment methodology with about 100% coverage</li> <li>▪ MRF facility is also available but limited to few</li> <li>▪ Sanitary landfill are limited to 2-3 ULBs</li> </ul>	<ul style="list-style-type: none"> <li>▪ Intermediate / Transfer station based decentralized waste treatment facility to be evaluated</li> <li>▪ Additional 20% alternative treatment such as bio-Methanation can be explored</li> </ul>	High
Plastic Waste	<ul style="list-style-type: none"> <li>▪ Lack of SOP for not only quantification but also life cycle analysis [LCA]</li> <li>▪ Limited understanding / interpretation of EPR / PRO</li> <li>▪ Only two ULBs lacking implementation of PW notification</li> </ul>	<ul style="list-style-type: none"> <li>▪ Strengthening surveillance of life cycle assessment for type and quantity of Plastic Waste</li> <li>▪ Effective EPR Policy</li> <li>▪ Initiation of 100% compliance to PW Rules at the earliest</li> </ul>	High & Immediate
C&D Waste	<ul style="list-style-type: none"> <li>▪ 2-3 of the ULB need to establish C&amp;D Waste management system</li> </ul>	<ul style="list-style-type: none"> <li>▪ Minimum 1 such facility at each of the ULB to be established</li> <li>▪ System for utilization of recovered material and processed C&amp;D waste to be effectively implemented and monitored</li> </ul>	High
Biomedical Waste	<ul style="list-style-type: none"> <li>▪ Rooting and effective collection within 48hrs from the time of generation to be effectively handled</li> <li>▪ Treatment facility lacks</li> </ul>	<ul style="list-style-type: none"> <li>▪ Regular Inventorization through automatic / digital platform to be developed</li> <li>▪ Up-gradation of existing facility to meet 2016 CPCB norms</li> <li>▪ Additional at least 1-2 facilities to</li> </ul>	Very High & Immediate

Sectors	Gaps	Action Points	Priority
	implementation of 2016 Notification in line with CPCB audited report <ul style="list-style-type: none"> <li>▪ Limited Inventorization</li> <li>▪</li> </ul>	cover the of umbrella zone along with increasing burden on the existing coverage area to be planned <ul style="list-style-type: none"> <li>▪ Collection mechanism to be strengthen with additional vehicles to cover vast area and scattered HCF [miniscule quantity ]</li> </ul>	
Hazardous Waste	<ul style="list-style-type: none"> <li>▪ Domestic HW being mixed with solid waste posing threat</li> <li>▪ No separate handling of domestic HW</li> <li>▪ Not effective segregation at source</li> </ul>	<ul style="list-style-type: none"> <li>▪ Either decentralized 4 - 5 step segregation practices to be initiated or at least advisory for intermittent storage and collection of domestic HW to be initiated</li> <li>▪ Inventory to be initiated and maintained</li> </ul>	Very High & Immediate
E Waste	<ul style="list-style-type: none"> <li>▪ Lack of inventory</li> <li>▪ Limited understanding of E waste rule and management</li> <li>▪ Neither segregation nor separate transfer / handling facility</li> </ul>	<ul style="list-style-type: none"> <li>▪ Detailed inventory for domestic e waste under 26 different categories</li> <li>▪ Mass awareness campaign</li> <li>▪ Every ULB to have at least one E waste management centre and minimum one collection / drop centre in a radius of 25-30km</li> <li>▪ Atleast one e waste processing unit in a district</li> </ul>	Very High & Immediate

#### 4.0 Water Quality Management Plan

There are no Rivers in Palghar district. With respect to the data collated about 259MLD of untreated /partially treated sewage of 4 ULB's flows in to the riverine length thereby [posing challenge for attaining clean water in the river.

The 4 ULBs generate about 112.9 MLD of sewage with an existing capacity of 30 MLD of STP for only Palghar Municipal Council leaving a deficit of 43 % in remaining 3 ULB's. On the other hand most of the deficit is accounted due to lack of sewage conveyance system [Sewer Network]. However it is also many a time the deficit as a representative of treatment capacity / capability. Even though MPCB has been eying to formulate policy w.r.t. reuse treated sewage as a regulation, lack of reuse conveyance system and more often than not due to the limited options of reutilization of treated sewage worsened with consistent out put quality of treated sewage only leads to complicated disposal options. Rain water Harvesting is Iplemented in 3 ULBs of Palaghar district except Dahanu.

On the other hand industrial effluent are much more regulated wherein 59.106MLD from 851 nos. of industry are disposing the total 59.106 MLD WW into Nallahs/rivers. There is only 1 Common Effluent Treatment Facilities available in Palghar district.

A detailed Issue based management action plan is provided in Table 3.

**Table 3 Action Plan for Water Quality Management**

Sectors	Gaps	Action Points	Priority
Water Resources	<ul style="list-style-type: none"> <li>▪ Limited information available on mapping of surface water resources in terms of quantity</li> <li>▪ Limited Inventorization of quantity, usage, availability exploitation etc.</li> <li>▪ Limited Rejuvenation / remediation of water bodies</li> <li>▪ Solid waste dumping i the river bodies</li> </ul>	<ul style="list-style-type: none"> <li>▪ Thorough Mapping of resources to be taken up</li> <li>▪ Extensive assessment of quality to be done</li> <li>▪ Criticality indicators to be established for each water body/resource</li> <li>▪ Extend water quality monitoring network to include representativeness</li> <li>▪ Based on the criticality initiate Rejuvenation / remediation</li> <li>▪ Online Monitoring system for surface water bodies to be established</li> <li>▪ Protection methods to be developed for creative stoppage of dumping of solid waste in the surface water bodies</li> </ul>	High
Domestic	<ul style="list-style-type: none"> <li>▪ Correlation between generation and treatment often misleading</li> <li>▪ Water budgeting exercise often missing</li> <li>▪ Computation of water footprint missing</li> <li>▪ Surveillance /Inventorization in cradle to grave approach absolutely never applied</li> <li>▪ Limited collection system and treatment facility especially in remote area</li> <li>▪ Often polluting water resources</li> <li>▪ No established reuse options / reuse network</li> </ul>	<ul style="list-style-type: none"> <li>▪ Digital Platform to accommodate water budgeting / reuse potential</li> <li>▪ Approximately 120MLD of STP needed</li> <li>▪ Strengthen the sewage collection network to cover 100% Population</li> <li>▪ Policy for reuse / recycle of treated wastewater</li> </ul>	Very high & Immediate
Industrial	<ul style="list-style-type: none"> <li>▪ Limited information of industries discharging wastewater in to the river</li> </ul>	<ul style="list-style-type: none"> <li>▪ Digital compliance methodology to be developed</li> </ul>	High

	<ul style="list-style-type: none"> <li>▪ No provision of CETP</li> <li>▪ All 15 number of industries Noncompliance of in terms of meeting discharge standards</li> </ul>	<ul style="list-style-type: none"> <li>▪ Disposal system to be under constant surveillance</li> </ul>	
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## 5.0 Air Quality Management Plan

As it is Palghar district being one of the outgrowing areas in Maharashtra, Air quality assessment and sectoral management needs are ought to be essentially planned and executed. However, CPCB & MPCB through their NAMP & SAMP program has not set up manual nor any CAAQM stations across the district.

An exceedance factor like Identifying prominent air polluting sources such as Unpaved roads, burning of waste stubble reveals as per the monitored data that needs immediate attention as is the case in most of the areas of India. In view of the same the priamafece of every ULB's shall be to establish at least one such Ambient Air Monitoring Station and coordinate / collaborate with other monitoring organization to provide for advisory to general public towards health associations and risk of exposure. They have access to Air Quality Monitoring Data from SPCBs and CPCBs.

District doesn't provide any Vehicle pollution check centers, while no Dust Suppression Vehicles Action plans are prepared for non-attainment cities. District has access to air quality data from SPCBs & CPCB through Dashboard. They air pollution complaint redressing system of SPCBs. Inventory and policy formulation action plan is stated in **Table 4**.

**Table 4 Action Plan for Air Quality Management**

Sectors	Gaps	Action Points	Priority
Air	<ul style="list-style-type: none"> <li>▪ Limited CAAQMS to establish / corroborate inferences</li> <li>▪ Sectoral action plans not effectively established</li> </ul>	<ul style="list-style-type: none"> <li>▪ Emission inventory and source apportionment supported with dispersion and health based iterative process for science based AQM strategy to be established</li> <li>▪ Each ULB to have at least one urban and one rural CAAQMS or three manual stations at least to include criteria pollutants with minimum one location to include parameters of 2009 CPCB notification and meteorological data including cloud cover</li> <li>▪ Fugitive emission control system for hot spot emission control to be installed</li> <li>▪ Green barriers / Photo catalyst options to be evaluated</li> <li>▪ Capacity building to be enhanced</li> </ul>	High

## 6.0 Mining Activity Management plan

Mining waste is the high-volume material that originates from the processes of excavation, dressing and further physical and chemical processing of wide range of metalliferous and non-metalliferous minerals by opencast and deep shaft methods. Palghar district has no mining activities carried out among its local bodies. Area that is covered under mining activity is 70.24hectare, Sand mining is done.

It can be observed that all the 24 Mining areas are meeting Environmental Clearance Conditions. No any Mining operations are suspended for violations to environmental norms nor any odd directions are issued by SPCBs for the mining areas in the district.

## 7.0 Noise Pollution Management Plan

The goal of noise management is to maintain low noise exposures, such that human health and well-being are protected. The specific objectives of noise management are to develop criteria for the maximum safe noise exposure levels, and to promote noise assessment and control as part of environmental health programmes.

There are in Total 1 No. of noise measuring devices with district administration to monitor the noise levels while 1 noise measuring devices with SPCBs. There are No complaints received on noise pollution in last 1 year for Palghar district. District ocassionally implemnt ambient noise standards in residential and silent zones. No Noise monitoring study is carried out in Palghar district. Noise quality reveals mainly source specific noncompliance such as traffic related in most of the kerb side analysis. Though zoning categories and regulations therein are particularly specified, in limitation of noise regulations has always been challenge to the regulatory authority. **Table 5** spells potential management plan that could be taken up on priority by each of the ULBs.

**Table 5 Action Plan for Noise Pollution Management**

Sectors	Gaps	Action Points	Priority
Noise	<ul style="list-style-type: none"> <li>▪ Most of the source related noise areas show exposure beyond compliance</li> <li>▪ Excessive exposure during noise generating potential events/ festivals</li> <li>▪</li> </ul>	<ul style="list-style-type: none"> <li>▪ Noise mapping to be carried out for zonation purposes</li> <li>▪ At source control using physical or natural attenuation methods to be adopted</li> <li>▪ In the path noise control methodologies using noise absorbers creating zone of inhibition / silence zone to be done</li> <li>▪ End of the pipe measures such as PEs acoustic enclosures etc. to be</li> </ul>	High

		adopted <ul style="list-style-type: none"> <li>▪ Event based noise control policy to be effectively implemented</li> </ul>	
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## 8.0 Conclusion

There seems to be vast data gaps and a detailed exercise to collate and validate data gathered through this process needs to be urgently taken up in addition to the adopting a holistic & inclusive consultative process of gathering information, collating & converging it in order to be able to device strategies of future. Also, it is equally important that projection for at least next 20 years be done in order to evaluate management plans for futuristic view to meet the objective of such vast exercise. Digital data availability needs to be one of the prime tasks of government & methods of its validation be created with scope for improvement in near future. The practice needs to be a continual one to be updated regularly in order to monitor progress and effectiveness of this process & shall be linked with financial allocations being designed to be promoted by government of the day. With regards to action plans, the priorities shall be aligned based on sustainability objectives.